The Journal
OF THE
Jamaica Agricultural Society.

The more people do the more they can do: he who does nothing renders himself incapable of doing anything: while we are executing one work we are preparing ourselves for undertaking another.

VOL. XIX. FEBRUARY, 1915. No. 2.

BOARD OF MANAGEMENT.

The usual monthly Meeting of the Board of Management of the Jamaica Agricultural Society was held at the Office of the Society, 11 North Parade, Kingston, on Wednesday, the 20th January, 1915, at 3.15 p.m., the usual date and hour, the third Thursday of the month at 11.40 a.m., being reserved for the Half-Yearly General Meeting Present: His Excellency Sir Wm. H. Manning, K.C.M.G., C.B., (presiding), Sir Jno. Pringle, K.C.M.G., Hons. L. J. Bertram, D. Campbell, Geo. McGrath, R. P. Simmonds and S. S. Stedman; Messrs. P. C. Cork, C.M.G., A. W. Douet, H. Q. Levy, A. C. L. Martin, E. W. Muirhead, Rev. W. T. Graham, and the Secretary Jno. Barclay.

The minutes of the previous Meeting having been printed and circulated, were taken as read. Mr. Levy called attention to the fact that he had sent a telegram apologising for his absence at that Meeting and Mr. Muirhead said he had written to the same effect and these were not mentioned. With these additions the Minutes were confirmed.

Apologies for Absence.—Apologies for absence were submitted from the Director of Education, who was absent in the country on sick leave, from Mr. Craig, who was ill and confined to bed, and from Messrs. Conrad Watson and Archibald Spooner, who could not attend.

Matters arising out of Minutes:—

(*a*) *Panama Disease of Bananas.*—The Secretary submitted C.S.O. Paper, No. 19881, being a letter from the Director of Agriculture to the Colonial Secretary, of date 24th December, 1914, *re* Panama Disease.

The Secretary said that immediately he had received this letter which was marked 'Confidential', he had sent a copy direct to each member of the Board asking (1) whether publicity should be given to every case by Gazette notices and Newspaper notices, or (2) partial publicity by local notices where cases might occur, or (3) prompt and drastic measures of control under the proposed new Law as drafted by the Society and submitted to the Government.

After full discussion it was decided, that if the proposed new Law was passed, there would be no need for any public notification as the disease could be dealt with promptly and effectually. The Secretary was accordingly instructed to inform the Government, that the Board suggested, that as the proposed new Law provided for immediate and drastic measures of control there would be no necessity for any other measures; but if the Law was not passed by the Legislative Council in its entirety, the matter might be again referred to the Board immediately afterwards for consideration.

(*b*) *War Gifts.*—The Secretary said he had hoped to be in a position to send at least 1,000 boxes of Oranges and Grapefruit but there had been no steamer available during the month of January. The

S.S. "Chagres", however, would be leaving on the 8th February, but the United Fruit Co. had informed him that they could only take at the most 500 boxes and he was arranging for this quantity. The Government had authorized him to use the Preserve Jars in the care of the Permanent Exhibitions Committee to send gifts of Preserves, and he was also arranging for some to be sent. He had received a letter from the C. S. O. acknowledging the first shipment sent on November 9th per the S.S. "Chagres" (No. 163-19885/14 of date 6th January, 1915) and stating that the consignment had arrived in good order and had been handed over to the West India Committee, who had kindly undertaken to effect the distribution. He had also received acknowledgments from the West India Committee and they had sent on Press cuttings and acknowledgments from various Hospitals throughout the United Kingdom. He had heard privately that the 964 packages of Oranges and Grapefruit shipped by the S.S. "Aracataca on the 22nd November had arrived in good order but he had received no official acknowledgment yet.

(c) *Resolution re Sugar.*—The Secretary said that the question of sending a Resolution to the Imperial Government asking for the exemption of West Indian sugar from duty similar to the preference allowed in respect to home grown beet, had been referred to the Staple and Minor Products Committee, and Mr. Spooner had prepared a Resolution which that Committee had approved of, but the majority of the members suggested that the present time was inopportune and that nothing should be done to hamper or incommode the Imperial Government at this time in any way.

After discussion the Board decided to inform the Government to this effect and ask that the matter might be deferred for 6 months and be submitted to them again at the end of that time.

(d) *Foot and Mouth Disease in U. S. A.*—The Secretary said he had been asked by various penkeepers to bring before the Government the question of prohibiting the importation of grain as well as animals, fodder and litter into Jamaica and to impress upon the Government the necessity of seeing that the prohibition was strictly enforced at the outports. He understood that this particular matter had been before the Government and it had been decided that there was no necessity to prohibit the importation of corn and oats. The C. S. O. had also replied that strict injunctions had been given to enforce the prohibition at the outports. He had been trying to get up-to-date information from the United States with regard to this Disease there, but on looking over some prominent Agricultural papers just received he found that there was hardly any mention of the disease whatever. He understood, however, that the disease was expected to be entirely got under with the advent of severe frost in addition to the drastic measures being taken by the United States Government.

(e) *Contagious Diseases Animals Law.*—The Secretary said that at the last Meeting Mr. Craig had brought up the matter of a local epidemic of a Foot and Mouth Disease among mules that prevailed in his district—not the real Foot and Mouth Disease. The Inspector of Police for Clarendon had telegraphed to the Director of Agriculture asking for the Government Veterinary Surgeon to be sent down to investigate and give advice; the Director had replied that as this disease was not on the schedule of diseases under the Contagious Diseases of Animals Law, the Government Veterinary Surgeon could not be sent unless on payment of a fee of £1 per day and his travelling

expenses. Mr. Craig thought that as a layman could hardly say with certainty what any epidemic disease was, it should be the duty of the Government Veterinary Surgeon to be sent to investigate and report.

Mr. Martin said that he also felt that there was something about the *Contagious Diseases of Animals Law* that might be remedied. Where an epidemic broke out among cattle the symptoms were not always plain; a local penkeeper could not say with certainty what the disease really was, and if a responsible person reported that an epidemic had broken out showing symptoms similar to some disease under the Law, the Government Veterinary Surgeon should be sent down to investigate the matter in the interests of the live stock industry of the Island.

Mr. Cork said there was only one Veterinary Surgeon in the employment of the Government, and it would not be possible for him to obey all calls from penkeepers when there was disease among their stock.

The Secretary said he had some cases in point brought to his notice. Three districts had called his attention to the fact that there was an epidemic of hog sickness clearing off scores of their pigs; in one small district about 50 had died. Two of these districts were widely separated, one being in the middle of St. Ann and another in Southern St. Elizabeth. Swine Fever came under the Law but what local people could state with certainty whether this disease was really Hog Cholera or say Swine Plague?

Mr. Stedman said he had seen from an advertisement in the Press that in the new appointments of a Government Veterinary Surgeon no private practice would be allowed. Surely it would be better to make the salary less and allow private practice so that the new Government Veterinary Surgeon might gain larger experience and the country penkeepers have the benefit of his services.

The President said he did not recollect having any knowledge of this before but he would look into the matter. He was in sympathy with the idea that if there was any epidemic disease of animals in any part of the Island the Government Veterinary Surgeon should be sent down to investigate. In the case of such epidemic breaking out, the Colonial Secretary should be notified and an order would be given in the case of an epidemic among stock just in the same way as was done in respect to cases of Infectious Diseases among Plants.

The Secretary was directed to bring these matters to the notice of the Colonial Secretary.

(*f*) *Regulations for Sale of Crown Lands.*—The Secretary said that at the last Meeting of the Board a Special Committee had been appointed to go over the Rules governing the sale of Crown Lands, which had been published in the Gazette, and possibly suggest amendments. The Committee had met at 2 o'clock that afternoon, but had not finished with their deliberations when the hour for the Board Meeting came. He had, however, been instructed to type out the revisions and recommendations and circulate them among the members and he hoped to submit the whole matter in proper form at the next Meeting of the Board.

(*g*) *Co-Operative Marketing of Produce.*— The Secretary said that a Special Committee had been appointed to consider whether anything could be done in the way of Co-Operative Marketing of Produce, a matter that had been brought before His Excellency by the Chairman of the Agricultural Loan Societies Board who referred the question

to the Society. The Committee had met that morning and had gone into the subject fully. They thought the time was ripe to make a start on practical lines and that they might commence with the coffee industry as the most needful and likely. The Committee had deputed Mr. Arnett to make enquiries in St. Ann as to a suitable district, the amount of coffee available, and whether the people would respond by taking shares in a local Co-Operative Society which would be under the auspices of the Parent Society. He (the Secretary) hoped to bring the matter before the Board in a concrete form at the next Meeting.

Secretary's Half-Yearly Report.—The draft of the Secretary's Report for the half year—1st April to 30th September—which had been circulated to the members of the Board was submitted and approved of to be put before the General Meeting the next day.

The following letters from the C. S. O. were submitted:

(*a*) *Re Estimates.*—

No. 17079-19739. 31st December, 1914.

"I am directed by the Governor to acknowledge the receipt of your letter, No. 5706, dated the 21st instant, and to inform you that His Excellency has approved of the estimates of your Society for the year 1915-16 as submitted."

(Sgd.) G. M. Wortley,
Ag. Asst. Colonial Secretary.

(*b*) *Banana Meal.*—

No. 9-17533. 2nd January, 1915.

"I am directed by the Governor to acknowledge the receipt of your letter, No. 4836, dated the 18th November, conveying the request of the Board of Management that experiments may be made at public institutions in the use of banana meal as a food and offering to supply a sufficient quantity of the meal free of charge for the purpose. I am to inform you in reply that enquiry has been made as to the practicability of having such experiments made at the Public Hospital and the Lunatic Asylum, but that the Superintending Medical Officer has pointed out that in neither of these institutions would it be possible to arrange for a fair trial of the food value of the meal. Enquiries have also been made with a view to conducting such experiments at the Industrial School at Stony Hill and the Reformatory Branch of the St. Catherine District Prison, but the Inspector General has reported that it would not be advisable to carry out such experiments at these institutions, as banana already forms a considerable proportion of the ordinary diet of the boys.

"His Excellency regrets that the conditions at these public institutions do not appear to permit of a satisfactory test of the nutritive quantities of the meal, and I am to suggest that the authorities at Alpha Cottage Industrial School might be asked if an experiment in the use of the meal could be made at that institution."

(Sgd.) Robt. Johnstone,
Actg. Colonial Secretary

The Secretary said he had written Bishop Collins with regard to having experiments in Banana Meal tried at the Alpha Cottage Industrial School; the latter had asked first for the comparative analyses of Banana Meal and Cornmeal, which he had supplied, and experiments would likely be carried through at Alpha Cottage. The trouble in getting experiments tried with Banana Meal appeared to be that green bananas were at this time of the year so very cheap that they were largely used in place of yams.

(*c*) *Re Lititz Farm.*—

No. 17078-19684. 31st December, 1914.

"In compliance with the request made in your letter, No. 5665, dated the 21st instant, I am directed by the Governor to forward herewith copies of reports made on the Government Experimental Farm at Lititz from the report for the period ending the 30th November, 1914 to date."

(Sgd.) Robt. Johnstone,
Acting Colonial Secretary.

The Secretary read the Reports on the Lititz Farm for November and December.

Cotton Shipped from Experiment Grounds.—The Secretary said that he had received through Mr. Conrad Watson a report from the British Cotton Growing Association on the Cotton grown on the Experiment Grounds, and shipped. The report on the Sea Island was as follows:—Bright, medium length, fairly stained, value 12½d. to 15d. The report on the Egyptian was:—Good colour, rather irregular in length, value 9d. nominal. From the Experiment Grounds, 1,599 lbs. of seed cotton had been sent to the Ginnery, and from this 450 lbs. of lint had been shipped. From the Instructor's own plot 810 lbs. of seed cotton had been ginned and 225 lbs. shipped. This cotton, however, would probably have to lie in Manchester until the war was over. The report on the Cotton was considered promising.

Prize Holdings Competition.—The Secretary said that the parishes which should fall into the next round of the Prize Holdings Competition were:—St. Andrew, Clarendon, St. Elizabeth and Westmoreland. He suggested that the ordinary Competition should be gone on with this year, as so far as he had learned and seen he did not think that the Special Competitions being held in Manchester and Hanover were so generally useful as the Prize Holdings Competition. He was, however, making enquiry of the different Instructors as to the position in each parish.

Cottage Holdings Competition.—The Secretary submitted Report by the Judges, Messrs. Cradwick and Wates on the Cottage Holdings Competition held in Portland as an experiment. There were 37 holdings judged. The Secretary read the names of the prize winners.

Names.	Addresses.	House Max. 20	Gates and Fences Max: 15	Sanitation Max: 20	Vegetable Garden Maz: 15	Flower Garden Max: 5	Per Crops Max: 15	Stock Max: 10	Total 100	
Chas. Patterson	Priestman's River	16	13½	19	15	3	13½	8	88	—1st prize: £1 10 0
Mrs. E. Duncan	,, ,,	17	12½	15	15	3	13½	9	85	—2nd ,, 1 0 0
D. Webber	,, ,,	17	13½	15	13½	5	9	9	82	—3rd ,, 0 15 0
Alfred Taylor	Fairy Hill	20	10	20	4½	5	12	9	80½	—4th ,, 0 10 0
E. Brooks	Priestman's River	*16*	*13½*	*18*	*11*	*4*	*6*	*8*	*76½*	—*5th* ,, 0 5 0

He noticed that only 4 of the 37 competitors had not a vegetable garden and only 3 had not a flower garden. He thought it would have been an exception a few years ago to find any regular vegetable gardens. (This Report will be published in the March Journal.)

Mr. Stedman said he had a run through the district where this Cottage Holdings Competition was being held and he was astonished to see the great improvement in the cottages through the impetus given by this Competition small as the prizes were and the Competition reflected great credit on the Instructors.

The President said he was much interested in these Competitions and thought them of great value. Each year he was in the Island *he would give £5 to further such a Competition, the Board of Manage*ment to decide where the Competition should be held.

School Garden Competitions.—The Secretary reported that the entries for the School Garden Competitions were as follows:—

Corn growing competition 99; Guinea-corn growing confined to Southern St. Elizabeth and Southern Clarendon 12; Sea Island Cotton confined to Southern Clarendon and Southern St. Elizabeth 11.

Bitter Oranges.—The Secretary said that he had received the following letter from the Imperial Extract Co., of Toronto:—

December 28th, 1914.

"The writer had the pleasure of visiting the exhibit at the Toronto Exhibition, and enquired about bitter oranges. Since that time we have also been in communication with two different parties in Jamaica and have actually received three separate small sample shipments of bitter oranges.

We would be very glad indeed to place our orders for this fruit in Jamaica instead of Spain, but we regret to report that, in our opinion, these oranges are not equal to Sevilles. We have the last two sample shipments on hand now, and will be able to make exhaustive tests of them in the near future, so that we should not say very much on the subject at the present time."

(Sgd.) F. W. SHIRRIFF.

The Secretary said he could not find out who had sent these samples of bitter oranges and he was afraid there was something wrong because when it came to making marmalade our oranges had been reported on very favourably by big marmalade firms in Scotland and England, when he had shipped experimental lots in 1906. If we could get a trade in Canada it was so near that the fruit would carry well. He would ask the Board to allot him a small amount to enable him to ship 6 boxes of bitter oranges which Mr. Muirhead might provide so that they would be carefully selected.

Mr. Muirhead said that the trouble probably was that Seville-sweet oranges had been sent along with the Bitter oranges; they were very similar but the Seville sweet were not suitable for making marmalade.

The matter was left to the Secretary and Mr. Muirhead.

Instructors.—The usual Reports and Itineraries of the Instructors for the month of December were submitted and directed to be circulated to the Instructors Committee as usual.

Statement of Accounts.—The monthly Statement of Accounts was tabled.

New Members.—The following new members were elected:—

Walter Graham, Jinja, Uganda.

Thos. R. Towns, Holguin, Cuba.

J. A. G. Smith (Barrister) 14 Duke Street, Kingston.

A. Knox Wright, Wentworth, Port Maria.

The Meeting adjourned until Thursday, the 18th February, 1915, at 11.40 a.m.

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WHITE FLY OR "BLACK SCALE."

(By S. F. Ashby, Microbiologist.)

During the last two years, no doubt favoured by the drought, a black shiny scale-like insect has become very prominent in the under sides of the leaves of all species of citrus on the lowland plains. This insect is not a true scale but belongs to the family of the white flies (Aleurodidae) one species of which (Aleurodos citri) has caused so much loss to orange growers in Florida of recent years. Like the Florida white fly the 'black scale' is not a native of America but has been introduced from the East in recent times; as it is also found on mango leaves it was probably brought here on mango cuttings from India within the last twenty years.

Life History.—The eggs, about 50 in number, are laid in the form of a small round coil on the under sides of the younger leaves; they are sausage shaped, at first white, than pale brown with a mottled surface and attached to the leaf by a short stalk at one end. At the end of two weeks they split along the back and a white larva emerges with red eyes, short feelers and three pairs of legs; it crawls sluggishly away to a point near the egg coil and becomes fixed, turning rapidly darker and finally black; it is narrow oval in shape with a marked median rib and bearing a few long recurved spiny hairs; near the hind end is a short semi-circular funnel—the vaciform orifice which is present in all members of the family.

The insect remains in this first larval stage for about ten days; the skin is then moulted and a larger form replaces it, this second larval stage is broader with rigid spines and has a marked yellowish patch on the anterior portion; after eight days the skin is moulted and a still larger form of similar shape and appearance is found; this third larval stage lasts about eleven days and is then replaced by a much larger blue black shining and very spiny stage—the pupa. It is broad oval in form, strongly convex and the margin bears blunt teeth above which a line of white waxy secretion develops; this describes the form of the female pupa, the male being smaller, narrower and more boat shaped. The insect remains in this stage for at least three weeks until a T shaped split on the forward region allows the perfect insect to emerge gradually; it remains stationary for a time till the skin and wings have dried and toughened. The adults are often found in numbers on the under sides of the young leaves at the ends of the branches. The two pairs of wings are slaty blue (due to waxy bloom) or smoky black with a few white marginal spots; the body is rosy red, the eyes dark red or chocolate and the feelers yellowish; in the female the abdomen is broad and large and ends in three short spines; while in the male it is slender, narrowing behind and ending in a pair of stout forceps with a stiletto between them; the body is about 1½ mms. long and the spread of wings 3½ mms. (1 inch=25 mms.) Unlike the male scale insects both sexes of adult 'black scale' have two pairs of wings, and like the rest of the family show a vasiform orifice on the back of the abdomen near the end. The 'black scale' has six stages in its life history; the egg, three larval, a pupal, an winged adult. During January to March, 1914, the complete cycle from egg to egg occupied at least nine weeks. In the warmer months, it would be more rapid so that at least five breeds are produced in the year, development being continuous and overlapping as there is no period of hibernation in this climate.

Injury.—The colonies of larvae and pupae pierce the leaf and suck the sap without causing any perceptible yellowing; if yellow spots show through the leaf over a colony it is due to true scales which are often present with the 'black scale' as if attracted to the colonies; the true scales in question are the purple mussel, the orange nipple (Chr. aendium) and the West Indian red (Asp. articulatus). The colonies of the 'black scale' even when quite free from true scales sometimes cause a marked buckling upwards of the leaves and probably on growing leaves some deformation at the margin. Honey dew is excreted in small amounts and causes a development of black blight on the upper sides of the under leaves but not to the same extent as is due to some other white flies and true scales. Severe infestation checks growth and must have a marked effect on the setting and size of the fruit. *No special parasite* except the fungus at Harkers' Hall has been found on this insect in Jamaica as yet though one or more such would be certainly present in its native home in the East. Artificial means must therefore be relied on for its control here. Lime sulphur spray has not been very successful. Kerosene emulsion, or better still a heavy oil emulsion is more likely to succeed; the three larval stages are probably the most susceptible especially when moulting.

It is important to bear in mind, that the insect also infests the mango trees, which may be a source of new infection on citrus, after the latter has been effectively sprayed.

Mr. A. L. Qaaintance of the Department of Agriculture, Washington, a leading authority on the family, places the 'black scale' in a new genus so that it will be known as Aleurocanthus woglumi.

To judge from some of Mr. Hanson's spraying trials, Kerosene emulsion, paranaph—kerosene emulsion, and 'scalecide' kill this insect; the spray should be repeated three weeks later.

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HOG CHOLERA.

"Hog Cholera is an infectious malignant disease due to the action of a bacillus in the intestines. The most prominent symptoms are loss of appetite, fever, discharge from the eyes, purplish colouring of the skin and constipation, followed by a profuse diarrhea, which persists until death. Affected animals usually show a rise of temperature 1 to 3 above normal, but this symptom is frequently absent. Sick hogs are dull and lie quietly in a corner or huddle together, usually hiding the head under the bedding. The colour of the discharge during diarrhea of hog cholera depends upon the kind of feed. A slight cough is often noted. The discharge from the eyes is watery at first, but later becomes thick and yellowish. The gait is staggering and uncertain and the animals have a gaunt appearance, with arched back. The symptoms however vary to a great extent in different cases.

The mortality from hog cholera ranges from 80 to 90 per cent. In acute attacks the animals may die within a few days while in chronic cases the disease may extend through a month or more. The spleen becomes enlarged and soft. The large intestines may show slight hemorrhages. In the chronic form the intestines become ulcerated. In some cases, however, a general congestion and reddening of the whole mucous lining of the large intestines take place.

There is no satisfactory medicinal remedy for hog cholera. Many patent medicines have been widely advertised as cures for the disease. Careful tests with such remedies indicate that they are worthless. Good tonics may render hogs less susceptible to the disease. When an outbreak occurs all healthy animals should be removed from the sick and exposed hogs and should not be allowed access to the same food or water supply. The carcasses of dead animals should be buried or burned and infected pens should be thoroughly cleaned or burned. Animals from suspected localities should be quarantined until all suspicion has passed.

There are at least 3 infectious swine diseases of a malignant nature, hog cholera and swine plague and swine erysipelas. In the majority of outbreaks the first 2 of these diseases occur simultaneously. The distribution of the 2 diseases is about the same, but hog cholera is perhaps the most common.

Experiments have shown conclusively that a perfect disinfection of pens after an outbreak of hog cholera is impossible. Infected pens and refuse should therefore be burned, and the grounds should not be used for hog yards for several months.

Swine plague is an infectious disease resembling hog cholera and frequently occurring in combination with the latter. In swine plague the chief seat of infection is in the lungs, and some form of pulmonary affection is nearly always the direct cause of death. Natural infection with swine plague takes place through the air passages, while in hog cholera infection occurs through the feed. A reddening of the skin indicates hog cholera rather than swine plague. It is often impossible, however, to distinguish between the two diseases, except by a microscopic study."—Bulletin, U.S.A.

* * * * *

As is stated abov ewhere hogs have died, presumably from any of the diseases mentioned above—Hog Cholera or Swine Plague—or at any rate where there is or has been recently an epidemic of deaths among pigs, we recommend that any pigs that survive should be kept apart for some months. It would be expensive to buy sufficient disinfectants such as Jeyes or others mentioned in this JOURNAL to go all over the yards or wherever the pigs had been running. A simple and easy disinfecting agent for yards and one that serves the purpose, is to spread lime over them. A still cheaper and convenient disinfectant, where bush and wood are plentiful, is to spread some kind of trash or sticks over the yard in the pig pens and burn them over. The yards need not be done all at once, as that would make a big burn and a big smoke, but every day a little can be done. The lime method could be reserved for those parts which cannot be burned—where there are coffee, fruit trees, etc. All pigs that are left after an epidemic of the diseases mentioned, will carry the germs in them, and if there are any favourable circumstances the disease may again develop. Each hog should be dosed for two weeks with a good tonic powder containing iron. Everybody has at hand Castor Oil and Jeyes, and a dose according to the size of the pig should be given. A young pig, of about 2 or 3 months will take a bare teaspoonful of Jeyes in 2 tablespoonsful of Castor Oil, while a pig of 200 lbs. weight will take half a pint bottle of Castor Oil with a tablespoonful of Jeyes in it, well shaken up. It is easier, however, to give Epsom Salts in sloppy food to the pigs, sweetening it to hide the taste of the Salts, along with a good tonic powder, as drenching a pig with Castor Oil is no easy job.

POTATOES.

THE CULTIVATION OF IRISH POTATOES.

In the Agricultural Gazette of New South Wales for October, there is published a report on the trials of different varieties of Irish Potatoes against each other in different parts of the State—North, South and West, where very different climate conditions prevail. It has to be borne in mind that New South Wales is 75 times larger than Jamaica. We give some particulars of some of these experiments because the climate more nearly approximates our upland climate where *potatoes are chiefly grown commercially*. In a late JOURNAL we quoted a return of 17 barrels for one planted as about the best we have known here. We said a return like that was good here in comparison with average yields, but nothing compared with the return per acre in the United Kingdom where 5 tons per acre was a small return and yields of 20 tons were common. In New South Wales the best return from a trial acre was 7 tons, 14 cwt., 18 lbs., and the poorest 2 tons, 18 cwt. 2 qrs. 4 lbs.

Now our best return of 17 barrels of say 160 lbs. weight is only 2,720 lbs., or less than 1¼ ton.

How is this in a country where, and sometimes on the same soil, bananas give such large yields? We have known the best alluvial soils, which gave a tremendous return in bananas, absolutely fail to give more than 4 barrels of Irish Potatoes for 1 barrel planted, even though grown in the cool weather. It is because, as we have often explained, the potato makes its growth and yield in 3 months and must therefore have every condition favourable—fine soil, rich soil. If we take the weight of the average barrel planted here to be 160 lbs. (and this allows for shrinkage and rot of the average barrel from Halifax) and we reaped a crop of 14 barrels for each planted, that would only be one Imperial ton of 2,240 lbs. To get a return of five tons, which a farmer in the United Kingdom would think very poor, we should require to get 70 barrels for one planted. Any potato grower here who got that would be so as[illegible]nished that he would ask us if this was the record of the world.

However, joking apart, can [illegible]ch a return be got here? When we compare the method of growing p[illegible]atoes here in comparison with places where 8 or 10 times the return is g[illegible], we do not consider that our returns are so poor as the figures indic[illegible]e. Very few potato growers here ever put any manure at all on th[illegible]ir land; most simply take land that has been lying fallow under bush [illegible]d grass for a short time (the return of 17 barrels for one planted was got on old pasture land) while some think that they can grow Irish [illegible]tatoes in the way they grow sweet potatoes, yams and cassava on la[illegible]d that has been cropped intensively with these crops for many years. Many is a vague word, but certainly many of the red and light yellow [illegible]oam soils of Manchester must have been cropped without manure f[illegible] over 100 years, perhaps not continuously, but nearly so.

Now compare this with the [illegible]methods adopted—compelled to be adopted—by farmers, to pay thei[illegible] very high rents and make a living in the United Kingdom. The [illegible]nd there is seldom cropped twice under the same crop: most farme[illegible]s are bound by their lease to plant a rotation of crops, in some part[illegible] a five years' rotation, and in others a seven years' rotation; that is, the same crop is not grown on the same

land for 5 or 7 years. The land being under tillage every year never gets hard and baked—unless in the cases where land is put under pasture for a period; it is ploughed deeply, perhaps left all the winter lying ploughed; then ploughed again, harrowed and harrowed again and again. For potatoes not less than 10 tons of animal manure is applied per acre, that is 10 big cart loads, then 5 cwt. or so of artificial fertilizer is applied per acre. The animal manure is usually spread and ploughed in and the fertilizer applied when planting, with another application when the potatoes receive their first hilling.

The expense is big but the returns are big in proportion. In New South Wales, Australia, the planting distances and depths vary, but the average is in furrows or rows 2 ft. 6 ins. apart, sets planted 18 to 20 inches apart in the row, 4 to 6 inches deep. One of the mistakes here is not cultivating deep enough, and not planting deep enough. The land ought to be cultivated a foot deep, the drills made 8 inches deep, and the potatoes planted to be covered at least 4 inches deep in the soil, even if the hilling up adds another two inches or more.

As we have often stated before, Irish potatoes being a very quick growing crop here, usually being reaped 3 months after planting, it follows, that to be productive they must have every circumstance connected with their growth favourable. They have no time to stand a set back and then make it up as other root crops common here, like Sweet potatoes and Cassava, can do. Thousands of little fine rootlets start out from the eyes when planted after two or three days; in a week these are inches long if the soil is soft and fine, and when it is also rich with plant food each rootlet absorbs moisture and with it nourishment—as much nourishment as it can get. Irish potatoes are greedy feeders. But if the soil is not fine but lumpy or hard, the very fine threadlike roots cannot bore into it to find nourishment; they may stop growing or grow feebly or many simply die off. It is a necessity, therefore, to have the soil for growing Irish potatoes soft, deep, and fine and very rich. The land for their growth should be prepared long ahead; roughly turned over to let the sun and breeze act upon the clods and lumps. Manure should be saved or collected, and kept under cover, so that the rain may not wash the virtue out of it; or the land can be penned; cows, horses, mules, donkeys and goats brought on to it at night and fed there. This is a very suitable and economical way of manuring land for our circumstances here. The land should be refined, forked or ploughed over not less than 9 inches deep; and again gone over with a plough or cultivator or fork before planting. If the manure has been collected to be applied, it can either be spread and dug in at the last refining before making the drills, or if it is in a fine state can be spread in the drills and the potato sets planted on the top of it. If there is an abundance of manure it should be spread; if it has to be economized it should be spread in the drills. In dry districts, leave the drills not quite filled up, after planting, and fill up when the plants are 4 inches up, by drawing the earth into the furrows, so that when finished the plants will be almost level. In a hot country the high ridging up used in cold countries where all the sunshine and heat possible are wanted on the potatoes, is not necessary is not, indeed, advisable here.

Now for those who mean to work systematically, a good rotation after the potatoes are lifted, is corn and peas or beans grown together. Potatoes planted on the uplands in March and April are lifted the end of June and July in time for August planting of corn and peas, then

peas are reaped within 3 to 4 months depending upon the variety, and the corn within 6 months; then beasts may be grazed on the land for a year, or until August again when a thick crop of peas will bring the land into shape for March planting of potatoes again. But no other *root* crop should be planted where Irish potatoes are intended to be grown, otherwise there will not be a good return, and there will be attacks of wireworms and other root pests. When enough manure is not available, a thick planting of Cowpeas is most refreshing to the land, and if cut down when in blossom and after lying a time, the rotting vines are ploughed in, we have known good crops of potatoes taken up without other manure at all.

As a rule it takes about one barrel of ordinary potatoes, planting the small ones whole and the large cut into two sets, to plant a chain; larger potatoes cut into 3 sets will go further of course.

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TICKS.

It is to be regretted, that in spite of the strenuous efforts put forth, by the Department of Agriculture and the Jamaica Agricultural Society, to wage a concerted war against the ever troublesome tick scourge, there are so many proprietors who are still using the antiquated tar brush. The ravages of ticks among cattle will be brought home when I relate an experience I had lately, and a large penkeeper in Westmoreland, has told me that at certain times of the year this is an ordinary experience with him.

A fine cow on a pen in Westmoreland began to look bad and gradually to pine away. Several doses of Red-Drench failing to restore her the owner thought it a case of tuberculosis and was making up his mind to destroy her, when on looking into her mouth he found the root of the tongue covered with silver ticks. On a further examination he found the sides of the jaw and the tender membrane near the throat also covered in patches. With great difficulty he removed them and dressed the inflamed parts with vaseline. In a few days, after being turned out in a fresh paddock, the animal began to regain condition. This experience caused the gentleman to examine the mouths of his herd and he found that in the majority of cases there were some ticks on the inside of the mouth. I believe that many of the poor looking animals to be found on well grassed pens are suffering from similar attacks.

This year the tick scourge is particularly bad in the West and I think it points to the fact that the evil is a growing one which might reach such proportions as to make profitable penkeeping difficult to achieve.

The matter is a serious one and pen-keepers in the West should take it in hand and decide upon the most thorough way of extermining this pest.

(Sgd.) R. C. SOMERVILLE.

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FOOD STUFFS.

From the very inception of this Society in 1895 the importance of utilizing our native food-stuffs to the best advantage has been recognized, and the importance of having some kind of food-stuff which can be stored in the form of a meal or flour was also considered of particular importance.

In all cold countries, where there is a winter lasting from 5 to 8 months, some crops are grown—and necessity has obliged such crops to be grown—which can be stored in a handy form and utilized for food during the winter. In these countries, there are Wheat (first in importance), Maize (often called Indian Corn) Oats, Barley and Rye, as grain crops; and as root crops, Potatoes (called here Irish Potatoes) which are the most valuable for food; Turnips, Carrots and Beets are also stored, both for human food and also for feeding dairy cows. In most Tropical countries, however, especially those not long settled nor thickly peopled, there has been plenty of land. Nature has been kind, and the people have naturally lived from hand to mouth; there has been, generally, no necessity to do otherwise. In warm countries that were peopled early in the world's history, such as China and India, the face of Nature has been changed, forests have disappeared, and long droughts, followed by tremendous rains and floods, have often happened. The people of these countries look upon droughts as people in cold countries look upon winter. They have grain crops, the chief of which is Rice, followed by Millet, Sorghums (what we familiarly call Guinea Corn) in addition to root crops, suitable to warm countries, the most common of which are Sweet Potatoes and Cassava. Even the Bees and Ants of warm countries recognize the necessity for storing food to serve them through periods of heavy and continuous rains or of long drought, just as those of cold countries do for the winter. It is plain, therefore, that man was not intended to live from hand to mouth. Even in those parts of Tropical countries where Nature has been kind, heavy and torrential rains, lasting weeks and often months, fall, and the natives, such as the Indians along the Amazon, do store some food, particularly a meal made from Cassava known here as Farine. All over Africa, from North to South, from East to West, there are store-houses for grain. In almost every village there is a general store-house. In Africa nature in many parts has not been too kind. There have been long droughts and tribal wars, which compel the natives to make *store-houses. The chief grain all over Africa is Sorghum.* In West Africa, it is practically the same as what we call Guinea Corn, which was introduced here from that region. This is our White Guinea Corn. In East Africa there is a quick growing variety called Dhurra, what we call Red Guinea Corn, and in South Africa similar varieties called Kaffir Corn.

The Western Hemisphere has not been thickly peopled—such as parts of Asia have been—(we are speaking of the hotter parts) and food has been generally easy to raise and plentiful. In such parts of tropical America as have been filling up, however, and where forests have been largely cleared especially from the mountainous parts, the weather has become more and more irregular, and droughts are of more frequent occurrence than before. Even although the total amount of rainfall may be the same as in past years the earth with its springs and streams has not been able to absorb and hold the water as it was able to do formerly.

The same necessity confronts little Jamaica as has confronted China and India for centuries past. We must grow foods that can be stored. Owing to our proximity to the United States and Canada, which have comparatively plentiful lands, and large areas to grow Wheat and Corn, we have largely depended on these countries for our Wheat, Flour and Cornmeal. It is a good thing for nations to

exchange products; this is what constitutes commerce. It is quite right for countries that have many manufacturing industries to sell the products of these industries abroad and buy food-stuffs and luxuries from all parts of the world. If we in Jamaica were always able to sell our products to other countries, to good advantage, such as Sugar, Rum, Coffee, Cocoa, Ginger, Bananas, Oranges, Grape-fruit, Limes, Annatto, Logwood, Fustic and so on, we could always afford to buy food and luxuries anywhere. But we have no such manufacturing industries. We are engaged in the business of raising products, nine-tenths of which are connected with the table, that is things to eat and drink, but none of our exports are absolute necessities as food-stuffs, as Wheat and Corn are. It is our duty, in fact a vital necessity, that we should raise as much of our own food-stuffs as we possibly can, so as to be fairly independent of the fluctuations of trade. If we are dependent on other countries for our food-stuffs, it often results that we sell our products cheaply and buy what we need dear; in fact that is almost the rule. There are always conditions arising every other year that throw us back upon ourselves. From August till now, and probably for another year or more, we have been thrown back on ourselves a good deal on account of the great war. Wheat Flour is 42/- per bag; a bag of Cornmeal of 196 lbs. costs 38/ a half more than they used to be. On the other hand some of our chief products are lower in price and hard to sellf or a variety of reasons. A few of our products are higher in price, especially sugar, but probably the largest number of smaller cultivators in the Island depend on Coffee, Cocoa, and Bananas for their ready money. If they do not sell these to advantage they cannot purchase the commodities in the shops. It would be prudent and economical, and we go so far as to say, a vital necessity, for the smaller cultivators to feel that they are not entirely dependent on what they may be able to sell abroad. It is of course as necessary to sell things abroad as to have home grown food. We cannot possibly live by selling things to each other alone.

We in Jamaica have food products just as valuable as products grown in other countries, and they can be stored equally well, if only we could appreciate the value of such products, and have them made in large quantities and sold cheaply, such as Corn (Maize), from which we can make our own Cornmeal; Guinea Corn, Cassava, and Bananas. Banana Meal is a product which should be regularly used. Cassava Farine is a product which should be stored in every district where Cassava is largely grown. We have often written in these JOURNALS about both products. There will always be a period when we cannot sell the enormous number of Bananas raised in this country for export abroad, and we ought to be in a position to utilize them profitably here when they cannot be sold. The subject we are leading up to, however, is the old one of Cassava Farine. From 1897 right on, this JOURNAL has printed articles on Cassava Farine. The Board of Management has had the question of utilizing Cassava in the form of Farine before it, and yet at the present time Farine is not being used in this country. There is no man who grows Cassava in quantity who should not have a barrel of Farine standing in a corner of his [illegible] so that at any time he can draw upon it for food. Is it reasonable of parti[illegible]ible for a country like this to be in the position that when [illegible]mething for Porridge in the morning, we have to use Oatmeal [illegible]and, or Rolled Oats or Cornmeal from the United States,

or Rice from India, simply because the people there have put these products in a dry form and are thus able to ship them thousands of miles to us? We can very easily put Cassava in the dry form of Farine. It is palatable, digestible, and nutritious.

It can be made in any ordinary iron pan that can go over the fire; but for £2, a regular Farine Pan to make a substantial quantity at once, can be had. We are again repeating some of the information which has been already published in the JOURNAL by re-publishing some of the articles that appeared in the JOURNAL from 1897 on.

(The Articles will appear in next JOURNAL.)

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CASSAVA.

SOME GOOD VARIETIES.

1. *Bobby Hanson* or Gordon is an early variety and matures in 9 months. It will give good results in all soils except soils remaining always wet. Grows equally well from sea level to 2,000 feet elevation.

2. *Pum-Pum or Bunch of Keys* is another early variety and matures between 9 and 12 months. The holes for this variety may not be more than one foot in length, but may be 2 feet wide. The tubers are generally short and stout. Hilly or gravelly land suit it better than any other soil. Planted at too great an elevation may result in tree and not tuber development.

3. *Grey Hound* is a variety of considerable growth, many and large tubers. It does not yield as much flour as the two varieties mentioned before. It matures in 10 or 12 months. Red soil is not the ideal one for it, but it suits best a conglomerate such as brown earth and brown gravel mixed.

4. *Red Jacket* is a variety of many tubers but not necessarily large. It matures in 12 months. It bears best in gravelly land of brownish appearance.

5 & 6. *Brown Stick & Smalling* are varieties much alike in many ways. They thrive in the same kind of soil; much humus should be in the soil where these are grown and they give very good account of themselves from a little above sea level to 3,000 feet above. The flour and starch yield from these varieties are considered the best. They are later to mature than the other varieties. In dry soils they mature between 12 and 14 months. In damp soils they mature between 14 and 18 months. I chiefly plant the Smalling variety. Its tubers are the largest and while the first tubers never fail to continue their development after they are a year old, other tubers go forth from the first. They seldom lose in weight however long they are kept before they are lifted.

Holes, Cuttings and Planting.—Except in the case of the Pum-Pum, the holes should be not less than 2 feet (length) by 1 foot (width). The depth should be about 9 inches. These remarks apply to the stiffer soils. In fine light soils a foot square is sufficient. All cuttings should be close to a node or eye, and need not be more than 6 inches in length, the plants being shorter where the nodes are not far apart. At this time when there may be much rain, about half an inch of plant may be left uncovered and these plants should be put in slanting the tuber producing end not being more than 4 inches deep. I hope the people will not place more than one cutting or plant in each hole. There is no necessity for more.

Smithfield P. O. E. J. SMITH.

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SULPHATE OF IRON.

The following was taken from the "Fruit Grower" of London:—

It has been found that trees treated to solutions of green vitrol, or sulphate of iron, acquire a greater increase of vitality; this, of course, increases assimilation, resulting in an extended season for the foliage of the trees—proving that iron is undoubtedly the active chemical agent in the formation of cholorophyl.

If a soil does not contain iron the plants become chlorotic and sickly. The reason for this is supposed to be that the plant loses its power to assimilate the carbon di-oxide from the atmosphere. Griffiths found that the application of potash had the effect of altering this state of affairs, and, what is of more importance at the moment, he found that sulphate of iron had exactly the same effect as did the potash. It is, therefore, argued, and we think with common sense, that the substitution of sulphate of iron for potash manures has sometimes an advantage. It has been found that the excessive use of potash is highly favourable to the development of fungi, while sulphate of iron has the opposite tendency, due to its action as a partial steriliser. Sulphate of iron may be used to great advantage even where potash manures are used, at the rate of 56 lb. per acre, or, roughly speaking, about 5 oz. to the pole. As a dressing among fruit trees, and especially where other crops are grown under the trees, we strongly advise that from 1 cwt. to 1½ cwt. be used per acre.

The spores of various diseases in the land are attacked by it, and it has a very corrosive action on the delicate membranes of insects. Those who have meadows on their places which have become badly infested with moss should, during dry weather, apply a dressing of ¾ cwt. per acre, giving the first dressing at the present time, the second in about a month, and the third in like quantity in about another month. It will be found to be one of the best dressings for clearing meadows of moss and will act as a general partial steriliser, as well as a solvent for other constituents in the soil. There are some soils which do not contain sufficient iron for the ordinary use

of plants, especially soils which are very near the chalk: on these sulphate of iron should be applied every year regularly.

Very great advance has been made during recent years in the provision of what may be termed dry powder partial sterilisers for use, not only under glass, but for the general horticulturist and market grower in the market garden proper, and these may be and are used very widely in the larger field of ordinary agriculture. One of the earliest of these powder sterilisers to which we now wish to refer was that known as Vaporite. It is not only useful in the land as a destroyer of insects, and as a fumigant having a deterrent effect on insects, which lay their eggs upon the plants, but from some of the remarkable results which we have seen where this and other partial soil sterilisers have been used, we have little doubt but that this and other powder preparations have a very direct effect upon the minute organisms which have been shown by the workers at Rothamsted and elsewhere to inhabit the soil, neutralising the work of the beneficent bacteria which prepare the food for plant life. Those who have tried dressing the soil with such active preparations as Vaporite, Vossolite, Pestite, &c., have no conception of their great aid to fertility, due, we mainly believe, to their powers as partial sterilisers when applied to the land before sowing the ordinary crops.

The various preparations on the market in use as powder partial sterilisers, or insecticides, or whatever they may be called, differ according to the various chemicals used in their preparation. Just what effect all of them have upon the minute flora or fungi which inhabit the soil it is impossible to say at the present time, but in the case of one preparation at least, where it was used on land which was very badly affected with the so-called finger-and-toe disease of brassica (Plasmodiophora brassica), the great benefit seen in the crop grown on the treated land was so marked that only one conclusion could be come to as to its power in dealing with this terrible disease in one or other of its stages.

It will be found that the gases given off by the specifics will drive away or keep away insects from the plant until it is thoroughly established, when it can usually take care of itself.

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KEEPING SEED FOR PLANTING.

The planting season for Corn and Guinea Corn is now here. There is always a good deal of complaint that seeds do not grow because insects eat them. This is especially the case with Guinea Corn—ants will take the seeds to a certainty. We have planted Guinea Corn one afternoon and the next forenoon found the part of land planted, infested with stinging ants eating out the germs. We therefore have advised that all Corn and Guinea Corn, in fact all seeds which are subject to attacks of ants and grubs when planted, should be treated with Kerosene and Wood Ashes, and we issue a small leaflet to this effect with all the Guinea Corn we send out, for the information of those who are only now taking an interest in growing plants and those who have not previously been reading the JOURNAL.

We repeat the instructions for treating seeds. Take a quantity of Wood Ashes in a bucket or pan—any ordinary pudding pan or kerosene tin, according to the amount of seed to be planted, will do—damp this with Kerosene Oil, so that it is quite moist, but not sloppy, put the seeds in and shake round about—the seeds can even be left

in from 6 to 12 hours. If close calculation can be made and only enough Wood Ashes used to treat the seeds, they can be planted right away, Wood Ashes too, but if a large quantity of Wood Ashes has been used this requires to be sifted out from the Seeds.

We notice that, to prevent birds and worms eating oats, wheat and barley, after they are planted, there is a preparation in the United Kingdom called Corvusine which we mentioned in a recent JOURNAL, being freely used and well spoken of. We have a sample from the firm and will have it carefully tried against the Kerosene and Wood Ash method. The quantity of Corvusine to be used is 1 pint to 4 or 5 bushels of grain, according to the size of the seeds. Guinea Corn, being small would take 1 pint to 3 bushels. We see that it is preferable to mix this preparation with Wood Ashes also. We shall have to figure out the comparative cost and effectiveness as against Kerosene.

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THE NECESSITY OF MEMBERS ATTENDING THE MEETINGS OF THE AGRICULTURAL SOCIETY.

(Being a Paper read to the Porus Agricultural Society by the Rev. C. A. Lindsay.)

In presenting a paper to you on this subject, I must at the very outset ask you to disabuse your minds of the idea, if such an idea is entertained, that I have consented to write this paper because I am best qualified to do so. If you were to think so, you would in that case be paying me an unmerited and consequently, undeserved compliment, while doing so would be but a reflection on those worthy gentlemen with whom the idea of the formation of a Branch Society originated, and who, consequently, must have perceived, more clearly than the others of us, the benefits to be derived in attending the meetings of the Society and from the Society itself. Accordingly some other reason or reasons must be given for my consenting to present you this paper.

One reason for doing so, I must at once assure you, is the deep concern and interest I have in all matters appertaining to my people's welfare and consequently to the good and prosperity of our Island.

No one will dispute, I trust, that in things material the agriculture of our island should have our first thought and attention, since ours is exclusively an agricultural country. Nevertheless you will agree that not every (if many) man is a born agriculturist, therefore the way for those of us who are neither born agriculturists nor geniuses, to acquire a proper knowledge of this science is to learn it.

Now where is *our* local school where we may best learn of agriculture? The answer you must all give gentlemen, is this: *here* at Porus—here at this *Branch Society.* Does it need then further argument to convince you that it is very reasonable to expect you to attend the meetings of the Society and thus endeavour to learn all you can? Of course, I am quite aware of the trouble with some of you cultivators, and from my experience with them in at least 9 of the parishes, I am in a position to say here that that trouble you will find to be either conceit or the folly of thinking we can live on "past glory," or both. This conceit manifests itself as soon as you say you know all about cultivating and therefore, you do not care to hear what *others* have to say about it. Such conceit is at once shattered—knocked down, when you are made to understand that one's whole

life here is one of continuous learning—indeed even in eternity, *there* our life will be one of continuous learning. As for living on past glory, that is seen when you say—in the days of your fathers they never took half so much trouble about the soil and yet they got ten times more out of it than many get today; but is not the reply to that, this—that we should for that very reason the more carefully consider and study this matter of the cultivation of the soil? It might happen, gentlemen, that I am somewhat straying from my subject, but all I wish to point out is this—that in many cases it is this conceit or belief that we can live on "past glory" why many of our members do not make it a point of duty—regular duty—to attend the meetings of the Society.

Gentlemen, if you agree that this Society is calculated to benefit you as agriculturists, then how can you be benefitted if you cannot see or learn of what it is doing in that direction? It must be accepted, that as members of this Society, you desire to profit from the hints, suggestions and aids given out from time to time by the Society. Now it would be a farce, and a manifestation of misdirected energy—if while the Society is giving out hints and suggestions for improved methods of cultivating and for securing the best price for our products, you keep yourselves away from the Society and still continue in the old and antiquated groove.

Already there is too much talk—and it is true talk too—about Jamaicans lacking in cohesion and cooperation. Are we never to shut the mouths of such talkers and wipe away the stigma on us, and for which we stand justly condemned to-day? If so, must we not begin at once to be united, cooperated, and show interest in our own local society, and thereby know by experience what it means when we speak of the unity, loyalty and patriotism of our Empire of which we form an integral part?

Gentlemen, this Society is no child's play—it is a society for business—and business of the greatest moment for us as agriculturists. We need therefore to come together—regularly and punctually. In doing this, you will, I trust, besides being individually benefitted, yet go on to devise and discuss some such scheme as the possibility of the Society having a plant in this town for the treatment of coffee and for the rinding of oranges.

In conclusion, let me thank you for your patience in listening to this paper, and if by it you are made to think a little more of your own interest, of the interest of this Society and consequently of that of our island generally, then the feeble attempts of the writer hereof will have been abundantly rewarded.

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CORN MILLS.

A few Branch Societies have been getting corn mills from us with the object—we take it—of grinding cornmeal, but from experience of these ourselves, we find that the grinding parts are generally made of soft metal and while they do for a time to crack corn for horses and for poultry feeding, they do not grind corn fine enough. We have consequently been trying to find mills with hard metal in the grinding parts. It will be understood, however, that it takes time to test these. There are mills to be got at all prices and of all sizes What we can get that can be worked by hand must be very light mills.

It is better however to pay a few shillings more and get one made of hard metal.

In these days when feed for stock is likely to be expensive, we would draw the attention of readers to the necessity of grinding the cob along with the corn for horse and cattle feed. We think also that the mixture would do for poultry. There are mills for doing such grinding by hand, but naturally it is severe work. There are also mills not costing very much more, fitted up for one mule or one steer to work and which can do from 600 to 1,000 corn cobs in a day.

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THE PAPAW AS A PIG FOOD.

I have been very interested in an experiment conducted by the Rev. James Carnegie, of Beaufort.

With a view of solving the problem of pig feeding, Mr. Carneigie obtained and planted out a patch of the large variety of papaw at the Mission land at Beaufort. In that seasonable district they grew very luxuriantly and bore large crops. With the ripe fruit he fed some pigs some of which were growing and some fattening. They ate the fruit ravenously and improved at the same rate as "cocoe-head" fed pigs.

This crop is an easy one to cultivate and with average seasons will bear heavily. In these days when to find good feeding for pigs, especially animals tethered or in sty, is sometimes difficult, the growing of papaw might well be tried and will be found a good solution to the problem.

R. C. SOMERVILLE.

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WAR GIFTS.

Those who supplied Oranges and Grapefruit for shipment to the Military Hospitals in the United Kingdom as a War Gift, should all be pleased to hear that although the fruit had all to be packed on deck of the steamer, the s.s. "Chagres," on the 22nd October, and the s.s. "Aracataca" on the 9th November, it arrived in good order. Owing to rough weather 12 packages of the later shipment were washed overboard and 44 got sea water and went bad. We have received from Mr. Aspinall, the Secretary of the West India Committee, London, who undertook the distribution of the fruit with the authority of the War Office, 231 letters of acknowledgment and appreciation from Military Hospitals in England, Scotland, Wales and Ireland, from the very south, to Dingwall in the north of Scotland. Altogether Jamaica has sent 1,256 packages (another 500 are going this month—February). Had steamers been available we could have sent much more but we could not get any steamer during January.

Trinidad and Dominica have also been generous in sending Oranges and Limes, and the Secretary of the West India Committee in his monthly Circular, says as follows :—

(The Daily Chronicle, London) Feb. 1, 1915.

To handle 2,249 packages of fruit and to arrange for their despatch among nearly four hundred hospitals is no light task; but Dr. Jones has carried it out so well that there has been no confusion, and only a few, if any, cases have gone astray. The Port of London Authority, at the request of the Committee, have waived the dock dues, and have done all in their power to facilitate the arrangements, but the congestion at the docks has resulted in some delay in clearing inward cargoes. At Bristol, whose Port Authority have also renounced their fees, work has proceeded more briskly, and no complaints have been received of damage.

The distribution has not been confined to England, the Red Cross Society having kindly consented to receive and forward to the Continent fruit for the hospitals in France and Flanders. And in some cases requests for consignments from hospitals, receiving Belgian and French wounded, were favourably considered. Our Indian troops have not been forgotten, and it may well be imagined what delight it gave them to receive such a welcome gift from the tropics. In due course the letters of thanks which have been received will be forwarded to the generous donors in the West Indies. Meanwhile it will be of interest to publish a few typical examples which will convey some idea of the great satisfaction and pleasure which the fruit has given to our wounded soldiers. The acknowledgments include a letter from H.R.H. Princess Louise, Duchess of Argyll. H.H. Princess Marie Louise also wrote saying that the fruit arrived in good condition and were very much appreciated by the soldiers at their Xmas Dinner. The Duchess of Bedford wrote: "Will you kindly convey to the Jamaica Agricultural Society my appreciation of their gift of fruit for the soldiers in my two hospitals. The men are extremely fond of fruit and will, I am sure, be most grateful." The Hospitals Gift Committee, Aberdeen, sending their warmest thanks to the Jamaica Agricultural Society, "for their most generous and beautiful gift of fruit," said that "13 cases came yesterday in good time for the Xmas dinner. The First Scottish General Hospital fills four hospitals in Aberdeen and each one had plenty of fruit, thanks to this kind gift. The tables looked quite beautiful with the plum puddings and especial sweets." The managers of the Royal Infirmary, Edinburgh, expressed their "gratitude to our West Indian friends in Jamaica." The Royal Infirmary, Liverpool, said that the fruit was much appreciated "by our wounded soldiers, who have remarkably good appetites after the first few days. The Matron of Lady Mountgarrett's Hospital for Officers wrote that the fruit arrived in excellent condition, and that she had been asked by all the patients in the hospital to convey their very best thanks to the Jamaica Agricultural Society, adding: "The fruit will be such a boon as it is so difficult at this season to give the patients much change in that respect."

How little grape-fruit is even yet understood in this country is shown by several of the letters. Lady Georgina Vernon, of the Worcester Voluntary Aids Detachment, for example, wrote that the soldiers in her hospital considered grape-fruit "a special treat, as they had not had any before." Those in charge of the Infirmary at Stockport and County Hospital at York, had apparently never heard of this fruit at all, for both acknowledge it as "grapenuts"! Another spoke of it as "bread-fruit," while one genial secretary thanked the Jamaica Agricultural Society for their kind gift of a Xmas Tree!

To prevent misconception and mistakes we have printed 3,000 leaflets containing a description of Grapefruit, explaining its difference from the Orange, its special virtues, and how it should be eaten, and these leaflets will be sent to Mr. Aspinall, the Secretary of the West India Committee, to send out along with each box of Grapefruit. This leaflet will no doubt be read with interest by the officers and soldiers in the various Military Hospitals. As the fruit on the whole has been very good, we think that Jamaica Grapefruit and Oranges have received a very good advertisement. Of course we have not sent these War Gifts with the idea of advertising; we have sent them out of a sense of duty to do what little we can for those who have suffered in fighting for the Empire. But Jamaica Grapefruit has been made known as it never has been before.

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SEASONABLE HINTS.

SEED CORN (MAIZE).—We try to do our very best to supply good selected seed from a prolific crop and keep in mind—and we want our readers to keep in mind also—that it is not the size of cob or the size of grain alone, but yield per acre under normal circumstances, that is the best test. We have a preference, as most have, for a good cob and a good grain, but we would not sacrifice yield per acre for show purposes.

The business of supplying seed corn that can be depended upon is not an easy one. The first test of all is for fertility and vigour of growth. All samples or consignments of corn that we supply are tested in seed boxes here. Corn may germinate and yet not be vigorous so we let it grow for a couple of weeks at least to see how it gets on. Among the things that have to be considered with the cobs are size, shape, regularity, solidity and weight of grain in comparison to cob. The causes that

make us reject seed corn are a lack of maturity as shown by excessive shrinkage from the time of first weighing after drying, looseness of grain in the cob, chaffiness of grain at the tip and a dull appearance; the kernel should be clear, bright, smooth and flinty, showing when the grains are cut open, white brittle germs. A dull looking germ, cheesy in appearance, and of dark colour, is not good. Vigorous germination, however, is absolutely necessary above all things.

In experiments in the United States it was found that corn was one of those seeds that did not require to be brought from a different locality as some kinds of seed requires—that the home grown corn adapted to the locality was always best so long as it was not injured. Now even in Jamaica we have great differences of climates and soils. Upland grown corn generally does well in the lowlands but we have not found lowland grown corn to do well in the uplands. We shall, however, be making some experiments again ourselves, in growing a measured chain of ordinary red corn—selected seed however—and pure yellow corn or pretty nearly pure, and the type that is now becoming common and seems to us most prolific, which is about half and half red and yellow. Plant plenty of corn: it is an anomaly that we should at any time be scarce of this grain. Jamaica imports nearly £50,000 worth every year!

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FOOD CROPS.—While there has been a great response to our circular to Branch Societies in the month of August, a few days after the war broke out, to plant all kinds of food crops to as large an extent as possible, long continued dry weather prevented some parishes from planting as quickly and as much as was liked; it was October before good seasons came. By March and August there will, generally speaking, be an abundance of yams and sweet potatoes even in St. Ann where long drought continued.

St. Mary is a parish that depends too much upon the other parishes for food crops: there is not much room, as a rule, the best lands being taken up by bananas. Cowpeas, however, are an excellent food crop and they go well with bananas, so these should be planted in St. Mary to as large an extent as possible as they are very sure growers and very prolific.

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BANANAS.—If there are clusters of suckers left around the plants that are to fruit this year, they should now receive a thinning out, taking care always that the cutting edge of the cutlass is turned outwards, otherwise, damage may be done to the main stem by cutting inwards. Make particularly sure that no *cut* suckers are left to fruit—they cannot produce good bunches unless on an exceptionally fertile patch of soil. It is better, however, not to risk cut suckers.

It is difficult to say the height that ratoons should be at the present time as so much depends upon soil and altitude, the amount of cultivation given and to be given, whether the plants are in their first year or second year, or are old ratoons, and how thickly they are growing. Certainly it is better to be early than late and ratoon suckers should be about man high to fruit in 1916: in the first year of planting they might not be so high of course, and if the present crop is forward so that it will likely be cut clean off by June, this will let more air and light in and the growth of the "followers" will be rapid. The timing of bananas is a subject that should be discussed by each Branch Society in each locality.

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SUGAR CANE.—A good deal of planting of cane is going on but much of it in a very careless fashion. The selection of cane tops is as important as the selection of seed for other crops. Thin, weedy tops should not be used if there is any choice. In some districts where drought prevailed cane tops are scarce and probably not very good, but where choice can be made good sound cane tops should be selected. Some times little cane holes are made 3 inches deep with a hard clay sub-soil; the canes inevitably grow out of the ground before long. It is better to fork the land right through and then make good cane holes leaving enough depth for a good hilling up. Another mistake is planting too close especially where canes ratoon a long time, then the field becomes a jungle. We have noted better results from wide planting between the rows, 6 ft. at least, and closer planting in the rows, say 3 ft. In this case a catch crop of Red Beans, or Black Eye Peas, or Cowpeas, should be grown between the rows.

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SWEET POTATOES.—It is the exception rather than the rule to make any selection in planting sweet potato slips and often different varieties are mixed together. The varieties should be kept strictly apart. Everyone who goes in largely for planting sweet potatoes should plant beds of the tubers and take "draws", i.e., the slips that grow from these, for planting. If this is not done every time there is another planting it should be done at least once in two years. Some varieties of sweet potatoes can

be lifted at 5 months and on to 9 months, so when the early kinds of these varieties are lifted the later ones are not over half fit.

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CASSAVA.—There is likely to be an increased price for cassava starch for some years and cassava should be largely planted. Unfortunately in most of the regular districts for cassava growing, sticks are still scarce, but as the seasons have been very good there should be an abundance at the end of the year. Different varieties should be tested in different districts to see which does best. There is a short article in the JOURNAL on some of the most popular varieties in the different districts.

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SEEDS.—We bave in stock—Vegetable seeds, Cowpeas, Jerusalem peas, Overlook Beans, Guinea Corn (red and white) selected seed corn.

Those who wish to keep down weeds in their bananas for the next 6 months, should plant Jerusalem Peas. These only blossom about November.

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GUINEA CORN.—We are glad to say that large crops of White Guinea Corn are being reaped and seed for planting will be available at moderate prices. As we have so often pointed out this variety of Guinea Corn grows most luxuriantly and is useful as a forage crop as well as for the grain. The one drawback is that it bears only in January, no matter when planted. It can be planted in March or April—in fact whenever there are seasons. If planted early it grows very tall as it has a longer period of growth. It can, however, be cut down for feeding in June or July and will still bear a good crop of grain in January.

The Red Guinea Corn does not grow quite so luxuriantly but the period of growth is 3½ to 4½ months, from the time of planting to the time of reaping. Some of those who have grown it have got excellent results, while others have not done so well. This was due to the seed—we had not enough native seed and had to send out some imported seed which never grows so well as that grown here. This Red Guinea Corn is one of those plants which seems to improve here. Our own grain is much superior to the imported seed. We shall not have a large quantity of this Red Guinea Corn to send out, but those who wish to have a quick-growing, drought-resisting crop, should try it, keep the seed and replant. Remember, however, that it is little use planting Guinea Corn unless the seed has been treated first by being passed through kerosene and woodashes.

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In a United States paper we read that in the State of Oklahoma there had been years of drought in the summer so that corn (maize) could not be raised again: the crop failed every year through dry weather. The farmers started to grow Kaffir Corn (similar to our Guinea Corn) untill they had nearly half a million acres in this crop; then came a dryer year than all and the following is what was written about the two crops: Corn (maize) and Kaffir Corn:—

"On one side of the road would be a cornfield burned to a crisp, without ears. On the other side would be a radiantly green kaffir field, with its sturdy growth and long, upstanding heads, producing thirty bushels of grain, or more, to the acre, and a lot of fodder besides. The contrasts were decidedly marked. It was a demonstration that left its impression.

According to the agriculturist at the Panhandle Institute at Goodwell, Oklahoma: "The roots of the corn were nearly all killed by the drought in July. Examination of green stalks in September showed that the few roots that sustained the plant were so located that they survived the drought. These were probably roots that had made most of their growth after the dry weather was broken.

"Sometimes a stalk of corn would have only one live root; the remainder, seemingly, had been dead several weeks. It was noticed that corn made little growth during August, when there was plenty of moisture in the soil. Roots of corn are not nearly so numerous as those of the sorghums, so they cannot fully occupy the soil as do the roots of the sorghum plant. If corn and sorghum of the same age and size are compared we shall find almost three times as many roots on the sorghum plant as on the corn plant. The roots of the two plants are about alike as to the depth to which they penetrate the soil, and also as to their horizontal growth. But the greater number of roots of the sorghums enable them to draw water from soils in which corn plants will die."

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STOCK NOTES

GOATS.—We have had many communications reporting goats suffering from violent diarrhoea or scours. We wrote about this in the December JOURNAL. If the trouble is not caused by young springing grass or other herbage, which would only be a temporary cause it is almost certain the trouble is due to the goats being infested with millions of lice. It may seem curious that diarrhoea usually follows when goats are kept in a constant state of irritation and fever through lice, and yet this pest is the cause of it and is about the last cause that the ordinary goat keeper would think of. The symptoms, however, are usually plain. If the goats are watched they will be seen to be constantly turning round and licking themselves or scratching themselves with their hoofs so that night and day they are kept miserable. We saw a flock of goats lately in a wretched condition in spite of plenty of feeding and good quarters they were infested with lice unknown to the owner.

Another pest that goats suffer from and which causes scours also, is worms, sometimes Strongyli, principally the Strongylus Contortus, affecting the stomach and bowels. Such goats as are affected with lice, require to be sprayed with the same disinfectants as are used for killing ticks—all those advertised in this JOURNAL are certain—and the animals would require to be sprayed every week. Probably the pens are masses of lice too, and these would require to be cleaned out and disinfected. For worms the remedy is to get a good medicinal powder which can be fed along with a little ground corn and this saves drenching. Very few people can drench goats and more goats are killed in the process of drenching than are saved. However, one teaspoonful of Turpentine or Jeyes Fluid in two tablespoonfuls of Fish Oil or Castor Oil, given twice a week for a month, will get rid of all worms.

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PIGS.—There have been epidemics among pigs in two parishes—St. Ann and St. Elizabeth—and perhaps in other places also, but only from these two parishes has excessive mortality been reported. In one small district of St. Elizabeth 50 pigs died. It is difficult, however, to get an accurate description of the symptoms by letter. The matter was placed before the Board of Management of this Society at their last Meeting and the Government was asked to send the Government Veterinary Surgeon down to investigate. It is very regrettable that there should be so much loss among pigs as the Island has been short of pigs since 1907. The symptoms in St. Ann appear to be those of Swine Plague.

Those who keep many pigs should always be prepared with medicine to be able, not so much to cure those that are attacked, as to try and prevent other pigs from taking the trouble whatever it is. It is difficult to give medicine to pigs as they are not easy to drench in the ordinary way, and as one of the first symptoms of sickness is their refusal to eat food, medicine cannot usually be given to hogs, already sick, in their food. It is necessary, therefore, whenever a few pigs in a lot become sick, to at once give those that are still well a laxative medicine and a tonic medicine.

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PARALYSIS IN PIGS.—There have been a few cases of pigs losing the use of their hind quarters—they go about on their fore legs drag-

ging their hind legs. This may be due to several causes, viz., (1) it may be rheumatism to which pigs in the mountains exposed to heavy rains and chilly nights are liable; (2) it may be worms in the kidneys and in the surrounding parts—this is the most common cause, commonly called "Kidney worm"; (3) in young pigs it may be overfeeding with fattening foods with not enough bone making material in such foods. If it is rheumatism the pigs will feel pain if the legs are pinched and they will probably be able to use the legs a little. The cure is to keep the pigs in a dry place with plenty of bedding and give a good tonic medicine. When affected with kidney worms the paralysis of the hind quarters is complete or nearly so, and they do not often recover. In this case it is well to give all the pigs a dose of one teaspoonful of Turpentine or Jeyes Fluid in two tablespoonfuls of Castor Oil and two tablespoonfuls of Fish Oil or Coconut Oil. This is the dose for every 50 lbs. weight of pig. The dose must be given on an empty stomach and should be given twice a week for say three weeks. When the paralysis is in young pigs, feed a more varied diet and give plenty of green stuff with a handful of charcoal and wood-ashes in the food. A very good pig medicine can be made up as follows:—

Sulphur	2	ozs.
BiCarbonate of Soda	4	,,
Sulphate of Soda	2	,,
Black Antimony	2	,,
Sulphate of Iron	1	,,
Wood Charcoal	2	,,

One dessertspoonful given once daily in a mixed diet or in milk, for every 50 lbs. weight of pig.

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POULTRY NOTES.

FEEDING.—The first batches of chickens for the season will now be appearing. We wrote last month that there was no hurry to feed young chickens after hatching. We find on careful enquiry that there is a tremendous mortality among chickens, even in the first week of their life. We question if 20% of the chickens hatched are raised. So far as we ourselves are concerned we do not lose from sickness more than 5% of chickens hatched in an average year, and we certainly raise 75%; the rest of the loss is accounted for by chickens being tramped upon by stock and being taken away by hawks; only a very few are taken away by mongoose and none by rats at present, although formerly rats accounted for a lot. A great many chickens get indigestion in the first 24 hours of their lives by being fed too early and then on improper food. They do not need to be fed for 24 hours after the last one is hatched and 36 hours would be better—even 48 hours would not matter. The first food we use always is coarse Scotch oatmeal, usually called pin head Oatmeal, and a little of this sprinkled in clean earth or grass is enough; do not overfeed. A good many people use rice, and brown rice is excellent food for chickens but not as their first food; white rice is never a good food. All the time dry rice has to be used very carefully. We have known of whole broods of chickens being killed through being overfed with dry rice. Those who feed it do not seem to reflect that rice swells to four or five time its bulk when it becomes moist, so that when fed dry it has to be fed

very sparingly. Partially boiled it is good. However, the best first food is Scotch oatmeal; failing this, cornmeal pudding crumbled up is good; ground corn is not suitable but is passable. We are really badly off in Jamaica for economical and suitable feeding for poultry, and it is difficult to make poultry keeping pay, when between the corn seasons, corn runs up to 5/- and 6/- a bushel. The whole trouble of feeding poultry economically and of finding the most suitable food for young chickens, could be solved if Guinea Corn were generally grown and it is so prolific that it could be grown and sold profitably at 2/6 per bushel. The Red Guinea Corn (Dhurra) is especially useful as it is a quick crop, growing in from 3 to 4 months and resisting drought well. We have fed this Guinea Corn to young chickens and they have thrived on it.

Neither chickens nor full grown fowls can thrive wholly on grain food if they are confined; arrangements must be made so that they can get animal food of some kind. We find a manure heap a most excellent thing; it usually swarms with grubs, often the larvae of the house fly which the chickens make short work of. Like fowls, chickens must be kept scraping and looking for their food. A nest of duck ants is good food if not too much of it is fed at one time. When chickens begin feeding they ought to have water in a shallow tin placed in the shade. Dirty water or sun heated water is a fertile cause of diarrhoea in chickens. Young chickens should be fed four times a day in small portions, later on three times a day, and this should be kept up. A great deal, however, depends upon the run they have. In some fortunate places, such as banana plantations, chickens can find abundance to eat, such as the small bunches that have been left on the ground not worth picking up, and these again breed grubs, so that we have known broods of chickens that never required to be fed at all. The ticks from cattle are excellent feeding; they are simply composed of cows blood.

Chickens are subject to a good many diseases. The first trouble usually is indigestion. They get their little crops stuffed full with hard grain, so stuffed that the contents won't move. First try a little Bi-Carbonate of Soda in water and make the chicken drink it by holding its bill in the water; the crop can then be gently kneaded. If this does not move it after a few hours, a quarter of a teaspoonful of castor oil to a teaspoonful of sweet oil—according to the size of the chicken—may be given and the crop again kneaded. Usually the kneading process relieves the crop, but if not, an operation—which not many will attempt—can be performed by slitting open the top of the crop, taking out the contents and stitching the skin again; then feeding only bread and milk for a few days.

The second most common trouble is 'Yaws' which we have deal t with very often. The chief cause of this is dirt—the hen and chickens sitting among their own droppings night after night; or in a fowl house among the excretions of other fowls: this always causes yaws. There are a good many ways of getting rid of yaws but we always prefer the simplest ones. People will recommend burning the eruptions with Butter of Antimony, or Carbolic, or Caustic, but these can only be used in the hands of skilful and careful people. A stick of Caustic is excellent but if not carefully kept air tight will evaporate, and carelessly handled will also burn the fingers. We write for the many readers who must use simple remedies. We prefer also all-round remedies—things that can be used for more than one purpose. For

Yaws this is found in Tincture of Iodine which is not dangerous and can be had at every Dispensers. A feather—or camel hair brush—dipped in the Tincture of Iodine and touched on to the yaws will take the eruptions off in 3 or 4 applications. At the same time Epsoms Salts should be put in the drinking water to clear the blood; but no remedies will be of use unless the chickens are kept in a clean place; if they are put up in coops at night these must be shifted about or at any rate cleaned out at short intervals with some disinfectant.

These are the two most common troubles among chickens here.

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COMMENTS.

General Meeting.—The Half-Yearly General Meeting on Thursday, 21st January was very successful. There were twenty-four delegates from twenty-seven Branches, spread all over the Island, one coming from Manchioneal in the extreme east, and one from Flint River in the west. The meeting lasted from 11-40 a.m. until 2.30 p.m. with His Excellency the Governor, the President, in the Chair.

Branches must note the Rule that only matters of general agricultural interest and importance can be discussed at this meeting; some subject that people in Portland, Clarendon and Hanover may be equally interested in. The question of some purely local road is not a subject for the General Meeting.

We should like to be able to publish the full report of the meeting but owing to cost we shall require to publish this separately, and only a small number, enough for each member of the Society to receive oue and 6 to each Branch.

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War Fund.—Since last Journal when we published a list of those Branches who had contributed to the Agricultural Societies War Fund, we have received £3 from the Deeside Branch, 13/- from the *Central St. Mary Branch, and from Warsop Branch, £1 2s. 3d. This* brings our total to £153 17s. 11d. If all the Branches had sent in their contributions as Agricultural Societies to us we should have had £250.

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War Gifts.—We received for shipment by the s.s. Chagres on Monday, 8th February, to Bristol, 666 cases made up as follows:—

306 boxes Grape Fruit,
347 boxes Oranges,
5 Cases Banana Figs (100 lbs. each)
5 cases (containing altogether 271 lbs. principally Guava Jelly and Grape Fruit marmalade.
3 cases Ginger Sugar.

Of these we had to reject 8 boxes of Grape Fruit and 5 boxes of Oranges.

These are all for the Military Hospitals in the United Kingdom and France, and the Preserves are meant for the sailors in the North Sea Fleet, if possible. A case of Ginger Sugar went with the last lot in March and was much appreciated. It is most valuable for making a wholesome and refreshing drink.

AUTHORIZED PERSONS.—Branch Societies are strongly recommended again, as they have often been before, to take charge of their "Authorized Persons", i.e., act as managers of them and make them feel that they are under some organization. Some Branches made mistakes in appointing men who were not connected with the Branch at all, and thus these men think that they are under no authority, have in some cases refused to recognize the request of the Branch Society for reports as to their work. As a great majority of the "Authorized the nomination of a Branch Society, the men nominated should be Persons" are appointed on members of the Branch, and well proved to be of good character, good physique and intelligence; they should be made to understand that they must report to the Branch which nominated them, on the work they have done, and it would also be helpful if the Forms of Claim for work done were filled up and signed at a meeting of the Branch, for it is certain that at a meeting of from 20 to 40 men of a district, someone at least must know all about a case and be able to prove whether the "Authorized Person" did such and such work, so that there would be no question about payment by the local Clerk of the Courts.

If there are any matters in doubt the fullest particulars should be got about these and sent on to us. It is no use sending on vague statements; we must have definite and precise information on each point.

We were directed at the Half-Yearly General Meeting held in January last (1914) to prepare a pamphlet on the duties of "Authorized Persons" and this was duly prepared and sent on to the Hon. Attorney General for his revisions on points of Law. In the meantime, however, there arose many local difficulties particularly on the point of the difference between common larceny and praedial larceny so that the Attorney General has taken into consideration the question of recommending that the distinction between common Larceny and Praedial Larceny as regards agricultural products should be abolished. There ought to have been no such difficulty locally, as the Law permits the "Authorized Person" to arrest on suspicion; but there has been so much of what we might call "cussedness," little quibbles by local police and Clerks of Courts, that the abolition of the very subtle distinction between common Larceny and Praedial Larceny should be helpful. There has been any amount of absolute stupidity on the point. Then how ridiculous it is for it to be held that if an "Authorized Person" actually sees a man taking yams out of a hill he has no right to arrest the man as a suspected person; yet the local police and even Clerks of Courts have tenaciously made this a point of objection. Of course it ought to be plain that an "Authorized Person" seeing anybody in the act of taking an agricultural product from the ground or from a tree, if that person is not the owner, must suspect him, and if on being questioned he cannot show proper authority, the person taking the product becomes a suspected person. Any amount of trouble has arisen over this point. The abolition of the distinction between common Larceny and Praedial Larceny ought certainly to obviate all difficulty in this direction.

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PARA RUBBER.—No serious attempt has been made to tap Para rubber trees since the trees came of a tappable age. The first planting of this variety of rubber took place in the great drought year of 1907 and in the following years so that the oldest trees are about seven

years old. Unlike Castilloa rubber, Para does not yield largely at one tapping; the trees have to be tapped every other day, and any observations made on one tapping or even two or three tappings are of no account whatever; indeed at the first or preliminary bleeding Para rubber trees seldom yield anything at all.

In Richmond in the parish of St. Mary, on soil not suitable for bananas, there are a good many Para rubber trees growing, and Mr. Watts, Assistant Instructor to Mr. Cradwick, who has had some experience in Dominica in tapping these trees, has commenced a systematic course of tapping. Between November 18th and December 31st, three trees tapped every other day gave a yield of 2 lbs. 7 ozs. of good dry rubber, and 11 ozs. of scrap rubber, a total yield of 3 lbs. 2 ozs. of rubber. Three other trees tapped by the Headman on the property between November 19th and January 11th, gave a yield of 1 lb. 15½ ozs. of good dry rubber and 5¼ ozs. of scrap rubber, a total yield of 2 lbs. 4¾ ozs. of rubber. These results are exceedingly promising especially when it is considered that St. Mary has gone through a year of unprecedented drought and that the rainfall for the preceding nine months was abnormally low.

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CORN.—Either we ought to show a large reduction in our imports of corn or our stock are much better fed than formerly, for not only have small settlers in nearly all parishes grown much more corn during the past season than formerly, but a good many owners of large estates are using ploughs and cultivators and growing corn; and they can raise it under 2/- a bushel.

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"Perhaps you will be interested in the growth of the American Corn I got from you. On the 28th November last I planted 33 grains of Longs Champion Yellow Dent, 33 grains of Eureka and 34 grains of Early Mastadon. Up to now the growth of Longs Champion Yellow Dent is just about twice that of the two others."

(We shall be interested , however, to hear what is the result in cobs).

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QUERIES.

PIGS.—Complaint comes from a Branch of two instances where sows have had a litter of young ones and had no milk. Can any reader say the cause and remedy?

PIGS.—An enquirer states that he has killed several full grown pigs in fine condition, and in each case the fat after being exposed to the air for a few minutes become yellow although perfectly white when the animal was newly killed. These pigs, he states, were not running loose, but were put up to fatten so that their diet was controlled and everything they ate was known and they had clean water.

Perhaps some correspondent will give some information on the subject.

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BRANCH NOTES.

ORACABESSA, (St. Mary.)—On the 15th December the monthly meeting was held in the Schoolroom. There were present: The Chairman, the Vice-Chairman the Secretary and five other members. The President suggested that the Prize Holding Competition be postponed. Mr. Powell, the Authorized Person for Jack's River, reported that there has been no praedial larceny since he was made an Authorized Person. There were cases of bad language; but over these he had no control. The matter, *re* debates, was brought up . It was suggested that the subject for the next meeting be:—The Effects of the War on Jamaica. Mr. Bramwell suggested that a topic be chosen from the JOURNAL. Mr. Webster suggested that the subject be: 'Is it more profitable to grow Coconuts than Bananas.' It was resolved that this subject be taken, The Secretary referred to the Half-Yearly Meeting of the Parent Society, and that it was highly necessary that this Society be represented; and Mr. H. A. Webster was appointed to represent this Society. Mr. Rice was asked to be appointed as an Authorized Person. The appointment of Williams as an Authorized Person was a mistake; for he is an Authorized Person for the Gayle Agricultural Branch. It was suggested that the Secretary write Mr. Barclay concerning the matter. Mr. Webster suggested that some meeting be held to augment the finances of the Society.

J. H. WYNTER, Secretary.

WINDWARD (Hanover.)—The regular bi-monthly meeting of the above was held in the Bethel Schoolroom on Friday, January 1st, 1915. A list of subscriptions was read regarding the orange gifts: 81 boxes sent away costing £7 9s. 2d. The President received a cheque from a lady in Kingston for £3 11s. towards orange fund, but had to return the cheque owing to closing of orange fund; also 2/- from a lady in Black River. Correspondence between President and General Secretary read and approved by the meeting. Secretary wrote about cow pens and potatoes, but got no reply. He was advised to write again. Secretary wrote to Mr. Charley *re* the buying of canes. He replied to meet him at Flint River on Monday, 4th, at 10 o'clock to discuss the matter with the several cane growers. The meeting then adjourned.

A. SHAW SAMUELS, Secretary.

CAMBRIDGE (St. James.)—The first regular monthly meeting of this Branch took place last Saturday, 2nd January, 1915. There were present: Mr. E. E. Myers, Senior V. P., in the Chair; Mr. Briscoe, Instructor, the Treasurer, the Secretary and 13 other members. *Re* the Grindstone. The Chairman reported that *the axle—of cast iron—had got broken. He was asked to get a new one made for it.* The matter of the Half-Yearly General Meeting was discussed. It was decided that as we have no matter to put before it and as our funds are low, we would not send a delegate to it. It was agreed that the Committee for the proposed Growers' Association should meet soon and report their decisions at the next meeting. The list of those who had subscribed to the Agricultural Society War Fund was read. 20/- being realized this amount was handed to Mr. Briscoe to be remitted as a first instalment towards it, and the Secretary was asked to circularize the members who had not yet subscribed, on the point. He was also asked to circularize all members as to the days for general monthly meetings, and some special duties to the Branch. On these duties the Chairman addressed the meeting. Mr. Briscoe promised to visit the district for instruction and demonstrations on the 19th, 20th and 21st instant, and asked that all who desire his services in their cultivations would give their names to the Secretary in time.

R. M. ARNOLD, Secretary.

WINDSOR FOREST (Portland.)—The regular monthly meeting was held at the Schoolroom on Monday, the 4th January, 1915. Present: Jno. Panton, Esq., President, in the Chair; L. A. Wates, Esq., Agricultural Instructor; C. A. Smith, Secretary and 12 other members, and several lady visitors. The President then called on the Treasurer for his financial report which was read and adopted. The Secretary read letter from the Secretary of the Parent Society, *re* delegate to the Half-Yearly General Meeting of the Parent Society. The Instructor spoke on the subject and impressed on the members the usefulness of sending a delegate to represent the Society, and Mr. W. F. Branch was elected. The matter of Cottage Holdings Com-

petition was next discussed, after which it was agreed that a resolution be sent to the Parent Society, as follows: Resolved:—Tthat this Branch being much pleased with the signs of progress in the district, caused by the Cottage Holding Competition, 1914, would urge upon the Parent Society the necessity for having this class made a permanent feature in the Prize Holding Competition in Portland.

C. A. SMITH, Secretary.

BAXTER'S MT—GEORGES HOPE (St. Mary.)—The monthly meeting was held in the Baxter's Mt. Schoolroom at 5 p.m. on Tuesday, January 4, 1915. In the absence of the Vice-President, Mr. Aaron Harris was voted to the Chair. There were present 12 members, the Secretary, and 3 visitors. The Secretary gave the members a short address pointing out to them that for various reasons this Society has not been as active as it should be, but that they must begin anew with the New Year to make this a successful Branch. Several other members spoke, showing their determination to do so and asked other members to do likewise. It was agreed that a lamp be bought for this Society. The Co-Operative Scheme set out by Mr F. L. Mossman in the November JOURNAL was next dealt with and warmly discussed. All the members, at the Baxter's Mt. end, favoured the scheme, but there are some difficult points which they want explained. For instance: Suppose a member guarantees to supply say ten stems but, subsequently, finds that he can supply fifteen instead, would the extra 5 he taken or could he sell to any other purchasing company without violating the contract. After a long discussion on the scheme, it was moved and unanimously agreed, that Mr. Mossman be asked to attend a meeting of this Branch, and the Secretary was instructed to write him. The matter of a Delegate for the next Half-Yearly Meeting was discussed. Mr. F. A. Dean, Secretary, was elected. The Grindstone question was again brought up, and members pledged to support the scheme. The amount of 3/6 is already in hand. Discussion for next meeting:—(a) The evils of planting Bitter Cassava and Sweet Cassava together. (b) Why should 2 six hand bunches which are 12 hands not be recognised as one bunch since a 9 hand is a straight (one bunch)? Other matters were left for next meeting in February. F . A. DEAN, Secretary.

TROY (Trelawny.)—The regular monthly meeting was held in the Troy School room on Tuesday, the 5th day of January, 1915. There were present: The Chairman, the Secretary and 10 ordinary members. The Chairman impressed on the members the advisability of continued efforts to carry out the Instructor's advice to provide for our own necessities during the war. A letter from the General Secretary *re* Half-Yearly Meeting and sending of a delegate was read. A discussion followed, but owing to financial difficulties no decision could be arrived at; but the Chairman stated that he was due in Kingston on the Tuesday following the debate of the meeting and if he can find it possible to go to the meeting he would communicate with the Secretary. The bad condition of the roads into Tyre and the Crown Lands was represented by Mr. C. Edwards. A discussion ensued in the course of which it was stated that the people working these roads, being strangers, take n interest, and therefore fail to give satisfaction. It was decided that, on fuller information being furnished, a representation be made to the Parochial Board. There being no further business, the meeting was adjourned. T. PINNOCK, Secretary

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GLENGOFFE (St. Catherine.)—The monthly meeting was held on Tuesday evening, the 5th January. On account of heavy showers of rain late in the afternoon the attendance was not as large as usual. There were present: Alex. Carey, Esq. (President); Rev. T. M. Sherlock (V.P.); A. P. Hanson, Esq. (Instructor for the district);the Secretary and Assistant Secretary, and other members. The meeting then carried through some very important business among which were the following: (a) The President was unanimously elected as Representative of the Branch to the Half-Yearly General Meeting of the Parent Society, and arising out of a suggestion from the Instructor, that the Representative take with him to that meeting the notes and recommendations of this Society on the Praedial Larceny Law, in connection with the suggested amendments from the Parent Society, the following resolution was moved and carried *nem con*:—(Resolution): That in addition to recommendations previously made by the Society upon the suggested changes in

Prædial Larceny Law this Society begs to further recommend that the Parent Society be asked to approach the proper authorities with a view to having the Praedial Larceny Law 9 of 1909 so amended, as to empower authorized persons to deal, not only with the theft of growing crops, but also that of Agricultural Produce in general. (b) The urgent need for the appointment of a J.P. for the district was brought up by Mr. R. Howell, and a Special Committee was appointed to approach the Custos of the parish on the matter at its earliest convenience. (c) Mr. Howell gave a very useful and instructive lecture on the *Pruning of Cocoa*, some of the salient points *of which may be noted as (1) Good Sharp Tools; (2) The careful study of the Tree; (3) To deal with gormandisers and the evils arising from them. (4) Tarring after cutting (5) The "die back" disease and rotten wood. (6) New or young bark on different parts of the tree as indicative of internal disease.* Mr. Howell's lecture was strongly supported by the Instructor in his "talk" on the subject of Cocoa. The Instructor also read interesting extracts from an article under the heading "London Cocoa Market" appearing in "Tropical Lines," (an English Magazine). The importance of Jamaica Cocoa especially in English Markets was specially dealt with in the article, and showed that the influence of the British Government in the interest it takes in this product, has done much to bring Jamaica Cocoa to the front. The Instructor advised the members never to be discouraged nor lessen their endeavour to bestow the greatest care on the preparation of their crops for the market, even though they may not realise in full the price expected for their carefully cured produce. Mr. Howell gave notice of motion for next meeting on the subject of a spray for the use of the Society. At the next regular meeting Mr. M. Reynolds will give a talk on the subject of "Trenching," and at the meeting following, the V. P. will give a talk on "Ventilation." J. R. BRYAN, Reporting Secretary.

SPANISH TOWN (St. Catherine.)—At a meeting held here on the 6th January, 1915, present were: The President, the Vice-Presidents, the Secretary and seven other members and two visitors. The President explained that they would not be able to use their usual rooms in future as the building had been bought by the Parochial Board, who had taken over the keys. Mr. Aldred, as a member of the Board, was asked to see if he could get the use of the room, if even temporarily, and promised to do so. The Secretary presented a pamphlet from the General Secretary *re* 'Goats.' It was decided to circulate it. The President spoke on the proposed lecture by the Government Microbiologist at Spanish Town on Coconut Diseases, and advised all to attend. Messrs. A. S. L. Verley, T. G. M. Stewart and Jno. H. Laidlaw were elected members, and Messrs. Verley and Stewart nominated as "Authorized Persons." Mr. Jonathan Wilks, an "Authorized Person," who was present reported a case in which he had secured a conviction for Praedial Larceny. Mr. D. A. Aldred (V.P.) was appointed to be the Delegate to attend the Parent Society's next Half-Yearly General Meeting. On the Secretary's motion the following resolution was passed unanimously: "That this Branch of the Jamaica Agricultural Society hereby records its feeling of deep regret at the death of Mr. George Fortunatus Judah, one of its oldest and most respected members, whose useful work as a public-spirited citizen and Island historian, will long be remembered by his fellow-countrymen with warmest feelings of appreciation and pride, and directs that a copy of this resolution be transmitted to Mrs. Judah (his widow) as a mark of the Branch's profound sympathy with herself and family in their sad bereavement." A vote of thanks to the President for the use of the rooms in which they met that evening was then passed, as also a vote of welcome to Mr. Stewart, a new member, who was present; and the meeting adjourned. EVERARD LOPEZ, Secretary.

ALBION MOUNTAINS (St. Mary.)—The regular monthly meeting was held at their regular meeting place on Thursday, 7th January, 1915. There were present seven members and the Secretary, and a few visitors. Mr. B. Byfield occupied the Chair. It was brought to notice that a few members had not yet paid in their amount for seeds received from the Society. Mr. R. Thompson then made a motion that money should be borrowed from funds of the Society to cover the amount that was wanting and sent to the Parent Society, and that members that still owed should be written to, asking them to settle as quickly as possible. Correspondence dealing with the Half-Yearly General Meeting was next dealt with. After some discussion

the Chairman said that he did not think the Society was in a position to send up a delegate. Mr. R. Fox deplored the poor attendance at the meeting. The Secretary advised members to encourage others to come out. Mr. T. A. Gray then asked the members who had planted the seeds received from the Parent Society,how they were thriving. All testified that they could not desire better; he then spoke on the importance of moulding corn also giving helpful illustrations at the same time. The Chairman then requested the Secretary to write Mr. W. G. Hamilton asking him about Prize money received or promised from the Albany Show. Mr. M. E. Morris gave notice that at the next meeting he would make a motion for the election of a new President for the Society. Mr. Morris was then asked to write a paper on the importance of an Agricultural Society and the necessity of co-operation, to be read at the next meeting. E. E. H. FORRESTER, Secretary.

KENSINGTON (Portland).—A meeting was held on January 6th, 1915, beginning at 6.20 p.m. Present, Mr. C. C. Neville (in the Chair), the Instructor, Mr. L. A. Wates and others, 21 in all. The Treasurer gave his report. Cash in hand was £2 16s. 5d. The correspondence *re* Half-Yearly Meeting was read, and twenty shillings voted to send up Mr. Thos. Neville as delegate. Mr. C. C. Neville moved a vote of thanks to the Instructor for the year's work, which was carried. The Instructor then lectured on Cleanliness in man and beast, Cottage Holdings, Debates at Meetings and several other topics. He also asked for reports at the next meeting of plants given from the Nursery. A Demonstration was arranged for at 9 a.m. February 3rd, at Mr. Frank Neufille's, and members promised to attend. A Debate was arranged for Pig vs. Goat, with Mr. W. M. Brown for the pig and Mr. Chas. Love for the goat, for the next meeting, February 3. The meeting closed at 8 p.m. with the National Anthem. W. A. HODGSON BINNALL, Secretary.

CENTRAL ST. MARY (St. Mary.)—The regular monthly meeting was held in the Eliot Schoolroom on Thursday, the 7th January, 1915. Mr. J. A. Banks, President, in the Chair. There were present the Acting Secretary, 10 other members and 6 visitors. Mr. James Henry of Clonmel laid on the table 2/- along with the subscription list as amounts collected towards the War Fund. The meeting decided to send off as early as possible all amounts received, to the Secretary of the Parent Society. Mr. Henry read article from the JOURNAL on Foot and Mouth Disease. Mr. J. Gordon spoke on the rat-killing campaign; the meeting finally agreed and decided that all the neighbours set poison in their fields together, in the same week, so as to effect a good killing of the pests. It was suggested that the ladies of the Branch go in for fowl rearing on an improved scale, which would enable them to speak freely over such articles in the meetings. The acting Secretary was asked to give a paper on this subject at the next meeting. The following was brought up by Mr. F. Gordon for consideration: Whether the berries from a hollow coffee tree would give the same weight as that of a sound tree. Mr. M. L. McLean, the present teacher of the Eliot Day School, became a member of the Branch, and paid his fee. Mr. Philip Livingston of the Clonmel district was recommended by the Branch as an Authorized Person for the said district. F. A. WILLIAMS, Secretary.

WILLIAMSFIELD (St. Catherine.)—The Regular monthly meeting was held at the Baptist meeting house on Thursday, 7th January, 1915. There were present: P. A. Moodie, Esq. (Pres.) in the Chair; one V. P., the Secretary, the Assistant Secretary, 15 members and a number of visitors. The Secretary read circular from Parent Society dated December 3rd, 1914, calling upon the Branch to appoint a Delegate to the General Half-Yearly meeting, and the President was appointed to attend. The President was asked to read to the members Mr. E. L. Mossman's suggestion in regard to the Co-Operative Societies (page 460.) He not only read, but explained at length the manner in which a scheme could be adopted, and suggested that at the next meeting the subject can be brought up for discussion; this was agreed. It was moved and seconded that the hour 4 o'clock, for meetings, having been given a trial for over three months, which was agreed upon at a previous meeting, proves now to be highly unsatisfactory, be it resolved that the hour be fixed for 7 p.m. on the 1st Thursday in each month. The President and V. P. was asked to give a lecture on some important subject from the JOURNAL next month; also to give addresses

quarterly. Roll call. President insisted on members attending more regularly. Meeting adjourned by the singing of the National Anthem.

D. E. TAYLOR, Secretary.

CAMBRIDGE-WOODFORD (St. Andrew.)— The monthly meeting was held on the 7th January, 1915, when the following were present: The President, Vice-President, the Secretary, nine other members and four visitors. Report on the formation and organization of a sub-branch with fourteen members at Craighton was presented and received with enthusiasm, this being the second sub-branch formed during the year 1914-15. The striking off of Mr. Daniel A. McGregor's name from the list of Authorized Persons, by the Inspector General of Police, was reported, and all the correspondence on the subject was read for the information of the meeting. The Jack's Hill sub-branch recommended Mr. Wiltshire Johnson as a fit person to be placed on the list of Authorized Persons for the Jack's Hill district. The nomination was confirmed by this meeting. The Grindstone, awarded by the Stony Hill Branch at its recent show to this Branch for having won the greatest number of prizes, being in place, was inspected by the members. A suitable resolution to be sent to that branch was drafted. The Vice-President agreed to arrange for the fixture of the stone; and at next meeting rules will be adapted for the care and use of it. Mrs. H. Fender was admitted a member. Meeting adjourned to Thursday, 4th February next.

R. A. CLARE, Secretary.

GINGER HILL (St. Elizabeth.)—A meeting was held on Thursday, 7th January, 1915. Mr. E. L. Salmon (Chairman). The day was rainy which prevented a good attendance, but there were present 13 members and Mr. J. M. Cousins, from Browns Hall, as a visitor, who gave a very interesting address and asked the Chairman to advise the working of co-operation amongst members. A petition was prepared and read at the meeting regarding the construction of a new road through the District which is very necessary. This petition is to be sent to the Parochial Board at Black River. All cultivations are in full bloom, we are having constant refreshing showers of rain, but the condition of the district is piteous, for no bananas can be sold at present. After the singing of the National Anthem, the meeting adjourned.

R. L. GORDON, Secretary.

MALDON (St. James.)—The usual monthly meeting was held on the 8th January 1915. Items arising out of minutes were dealt with. The President presided Fourteen members, the Instructor (Mr. Briscoe), and 3 visitors were present. It was proposed that a pair of fowls or a ram goat be purchased for the benefit of the members of the Society, and after a short discussion, it was decided that circulars be sent to all the members of the Society, so that this matter be discussed at the next meeting. Some discussion was held on Crown Lands, and this Society is of the opinion that the prices of these lands are too high. Mr. Briscoe spoke on Corn, Cassava and the Prize Holding Competition. The Instructor and Mr. S. C. Reid visited the fields of the members on Tuesday, Wednesday and Thursday of this week; much work was done, and 16 persons gave in their names to become members. Mr. Briscoe is doing well, and we wish him success. After the discussion of a few matters of minor importance, the meeting was brought to a close.

S. C. REID, Secretary.

DARLISTON (Westmoreland.)—The monthly meeting was held in the St. John's Schoolroom on Friday, 8th January, at 9 a.m. There were present: J. W. Mennell, Esq., in the Chair, Messrs. R. C. Somerville, the Instructor, 6 other members, and the Secretary. Mr. Somerville said, in re small settlers' sugar for manufacture, at Retreat and Cornwall Estates, he had an interview with Mr. Farquharson, who told him that from extensive experiments he had made, he found that he could not manufacture small settlers' sugar, for which he paid six (6/) shillings, with remunerative result, and he therefore had to withdraw the offer. Several letters were read from the General Secretary. In one he calls attention to "unclaimed JOURNALS" of some of the members of the Branch. The Instructor has promised to ask them if they would prefer to have their JOURNALS at Darliston P.O., instead of having them at Bluefields. Another matter dealt with at length, was that respecting the Half-

Yearly General Meeting. The Instructor consented to represent the Branch should he be in Kingston at the time. A very fine and instructive lecturing on "Ticks" was given by the Instructor and was keenly listened to by the members present. The Instructor was thanked for his kind instruction on the subject. At the close of the lecture the Secretary was instructed to write to the Director of Agriculture for one (1) drum of Paranaph to be delivered at Montpelier Station for the use of members in connection with the Branch. The meeting adjourned to 19th February, at 9 a.m. in the St. John's Infant Schoolroom. J. H. HEDLEY, Secretary.

PRESTON (St. Mary.)—The monthly meeting of this Society was held on Friday, 8th January, 1915. Mr. J. Parodie, Vice-President, presided. Correspondence from Parent Society was also read. There were twenty-four members present and some visitors. Mr. Cradwick and assistant, Mr. A. E. Gunter were also present The meeting was lively and everybody seems quite interested. Arising out of the minutes, the Chairman said that no information has yet been received respecting the letter that was sent to the Parochial Board, to be forwarded to His Excellency the Governor for his sanction to take over road No. 4 leading through the Oxford and Preston districts as Main Road, with the view of affording relief work to assist the people. At this stage Mr. Cradwick introduced Mr. Gunter to the meeting, after which he explained fully the conditions of the Prize Holding Competition, and informed intended competitors that the competition is deferred to early in March to meet their desire. It is not expected that every body will win a prize, and those who are not successful should not be discouraged but should become more ambitious to win success in the future. On Saturday Mr. Cradwick visited the holdings of the proposed competitiors so as to give such hints as may be needful; in the morning of same day he and Mr. Gunter demonstrated at the holding of Mr. J. Parodie, where a dozen members and others were present to receive instruction to enable them to better manage their cocoa fields. The Instructor also visited the field of Mr. Simeon Wright to see the caterpillars that are making ravages on his plants. Nearly all the small planters are experiencing the same trouble from like insects. It was suggested at last meeting that a spraying machine be purchased for the use of the members of the Society. After some discussion on the subject it was agreed that the machine be purchased. The Instructor thought it a wise thing to have such a machine as its use is important and varied and will be available to all the members. It was agreed that a two gallon spray be bought from the funds of the Society. Members using the machine to pay a 1½d. and supply their own sprays. *Re* letter sent to committee of Loan Bank asking for an extension of time for the repayment of loan owing to the depressed condition of things, resulting from the recent drought; the Chairman who is a member of that body, said "that the committee is not in a position to do anything in the direction suggested, but the request will be submitted to His Excellency the Governor for his decision, but in the meantime the members must do what they can by way of repayment." *Re* dullness of time: Mr. J. Angus thinks that owing to existing privations among the people, the middle man requires some more loans. The Chairman informed him that those persons who have already got loans cannot get again, owing to present conditions. Mr. W. Robertson, to help Mr. Angus, told him that "the only way to get out of the hardtimes is to plant quick crops, such as peas, potatoes, etc." Mr. S. Wright said "he has planted early crops but they cannot come to anything, being so badly destroyed by insects." The Instructor recommends "spraying" as the only remedy to stay the ravages. Mr. T. Gobern asked "how a cow may be kept so as to be able to give milk nearly through the year?" He was told to take away the calf and milk the mother at a regular hour each day. He also asked at what time may corn be best planted so as to pay the growers. He was told that March is the best month, but it must be put by when gathered and preserved from weevils, and be ready to put on the market when the price of corn is high. Mr Gunter gave a fine description of the yield of cocoa on a piece of land of 2½ acres; he said without proper attention the results from the crop of the above land for a year was only £8, but after the cocoa trees have got the attention they needed, the results from the crop for a year went up to £11 and upwards. This is remarkable and goes to show that cocoa growers in Jamaica are losing yearly more than half their crops from want of proper attention; as for the most part the trees are left

to care themselves. Questions were asked, to which Mr. Gunter gave satisfactory answers. Four authorized persons made reports. The first three said they have made no arrest as nothing suspicious came under their observations. Mr. Raymond Brown stated that he made an arrest and took the prisoner to Port Maria where he was tried, convicted and sent to prison. Mr. R. Amut moved that Mr. W. Robertson be appointed delegate to the half yearly meeting of the Parent Society on the 21st instant. This was seconded and carried. Mr. Robertson signified his willingness to go. A vote of thanks was accorded the Instructor and assistant for their presence and help and a haughty desire for their presence at all our monthly meetings was shown. Next meeting Friday, 12th February.

I. M. WILLIAMS, Secretary.

BAMBOO (St. Anns.)—At the meeting held here on Saturday the 9th January the following very important business was transacted:—Twenty members present (a) Final arrangements for seed competition to commence between 15th of February and 15th March. (b) Secretary instructed to order seed potatoes corn and peas for spring. (c) To correspond with Parochial Board respecting suspension of work on the water supply started at J. H. Tucker's place. (d) Pass resolution asking the Instructor to represent the Branch at the next Half-Yearly Meeting of the Jamaica Agricultural Society. (e) Reports from Authorized persons. (f) Appointment of Mr. Thomas Dixon as an authorized person for Shelly Road. (g) Send letter of condolence to the widow of the late Mr. James Mair , an authorized person, and arranging for a return of his badge, etc., to the police. (h) Members present asked to recommend a proper person to fill the vacancy caused by the death of Mr. James Mair, as early as possible. (i) Report from Secretary showing the need of a roof over the corn mill. (j) Secretary asked to keep the war fund open another month, so that not less than one guinea be sent up; 14/6 subscribed to date. (k) Instructor promised to give a lecture on Corn growing first Saturday in February. Holdings to be judged about the second week in April. Miss Josephine Mair was by unanimous consent, voted the post of Assistant Secretary of the Penny Bank, which is opened to non-members as well as members of the Branch. Very seasonable rains have been falling since the last week of October. The Branch has succeeded in getting a Sanitary Officer appointed for Bamboo District, and the protected water supply it agitated for will soon be accomplished. J. A. PERKINS, Secretary.

CLAREMONT (St. Ann.)—The annual meeting was held on Saturday, the 9th January. Sixteen members were present and the Agricultural Instructor. The report for the year 1914 was read and adopted. The Financial Statements showed a balance in hand of £12 0s. 10d. The election of officers for the current year resulted as follows:—President, Hon. Col. E. Moulton Barrett; Vice-President, Rev. A. W. Geddes; Secretary and Treasurer, Mr. F. P. Alexander. In view of the fact that the Society has had for years the free use of the Church Hall, the property of the Anglican Church, the meeting unanimously decided that the Secretary convey to the Committee of the Church the thanks of the Society for the use of the Hall, and at the same time to remit the sum of £1 as a small token of the Society's gratitude. It was decided that the date for holding the monthly meetings of the Society be changed from the 2nd to the 4th Saturday in the month. The monthly meeting was now held. The Secretary stated that the barrel of Irish Potatoes ordered by the Society had arrived in good order, and that the potatoes were being sold to members as near as possible at cost price. The date for holding the local Show has been fixed for Thursday, the 22nd April. Last year's prize list has been adopted for use this year. The meeting adopted the following resolution, and the Secretary was instructed to send it up to the Parent Society. "This Society having considered the communication from the Parent Society in reference to the planting of canes and the manufacture of sugar, it is of the opinion that unless there was some assurance that the price of sugar in the English market could be maintained at a rate sufficient to pay the producer, it would be unwise for any large outlay to be made in the cultivation of canes. This Society suggests that by way of assisting the small cultivators to obtain a better price for their sugar, the Government might erect in some central positions centrifugal machinery for the purpose of quickly refining raw sugar." Read letter from Mr. J. E. Cox, on behalf of Mrs. H. E. Cox, expressing deep ap-

preciation for the resolution of sympathy sent her on the death of her husband, the ex-Custos. Mr. E. S. McAdam was elected a member.

F. P. ALEXANDER, Secretary.

SAV-LA-MAR (Westmoreland).—At a recent meeting there were present: J. W. Mennell, Esq., J.P., Senior Vice-President, in the Chair; Rev. I. A. Dell, Vice-President, the Secretary and 3 other members, also the Instructor, Mr. Somerville. The Secretary reported that the Show Committee at its last meeting decided that the Show which had been arranged for the 1st of January, 1915, be postponed indefinitely in consequence of the War. The Secretary submitted a Circular from the Parent Society *re* price of food-stuffs,and another on the subject of 'Sugar', stating that there will be a shortage in 1915 and that as there will be a great call for sugar for export, estate sugar will be high in price and will probably be greatly in demand to be sent abroad. The Secretary then suggested that those small settlers who have cane mills and have been in the habit of making "wet sugar" should, through their Branches, consider the advisability of making dry sugar in barrels, the sugar could then be sold in the local shops and in towns as Muscovado. The Instructor said that he explained the matter to all the small settlers in the Parish placing all the facts before them. The President, who is also President of the Darliston Branch, endorsed the Instructor's statement. The Instructor also said that he had promised to assist the small settlers to dipose of their sugar to the best advantage. The Secretary presented a bill from M. C. DeSouza and Co., amounting to £3 1s. 0d. for Show printing. The Secretary was authorized to pay the amount. The Secretary read two Circulars from the Secretary of the Parent Society *re* "War Fund." On the motion of Rev. I.. A. Dell, the sum of twenty pounds (£20) was voted from the Reserve Fund as a subscription to the War Fund, and the Secretary was requested to forward same to Mr. Barclay, Secretary of the Parent Society and Treasurer of the "Agricultural Society War Fund." On the suggestion of the Instructor, it was agreed to ask the Director of Agriculture to request Mr. Ashby, the Microbiologist, to include Westmoreland in his itinerary. The third Friday in every month was fixed for the ordinary Meeting of the Society. OSCAR M. SEATON, Secretary.

DEESIDE (Trelawny.)—The regular monthly meeting was held in the Hastings Schoolroom on Tuesday evening, the 12th inst. There were present: H. Ramsden, Esq., President; twenty-one other members, the Secretary and a large number of visitors. Among the visitors were E. Arnett, Esq., Agricultural Instructor, Mr. Rennie, Assistant Instructor, Mr. and Mrs. D. O. Kelly-Lawson, of Hampden, Dr. and Mrs. Johnston, of Glasgow, Mrs. Ramsden and Miss Dignum. On the motion of the Secretary the standing orders of the meeting were suspended and a resolution of sympathy touching the death of Mr. R. J. Chambers, a well-known and deeply respected resident of the district, and an original member of the Branch, was passed. The caretaker informed the meeting that the Billy Goat had made some improvement and was in a fairly good condition and with some help would soon be fit for service. A letter from the General Secretary informing the Branch of the Half-Yearly General Meeting to be held in Kingston on the 21st Instant, was read. The President emphasized the importance of sending a delegate to represent the Society at these meetings. The matter was discussed but no appointment was made as the Society's funds did not allow of it. It was, however, the unanimous feeling of the meeting that the services of an Agricultural Instructor for the Parish are needed, the position being left vacant since July of last year. After some discussion the following resolution was moved and carried: "That this Society feeling the urgent need in filling the vacant post of an Agricultural Instructor for the Parish, would earnestly request the Jamaica Agricultural Society to make an appointment at an early date and that a copy of this resolution be forwarded to the Secretary of the Parent Society with a covering letter respectfully asking him to represent the matter at the Half-Yearly General Meeting to be held on the 21st instant." Mr. Arnett was asked to address the meeting. He expressed his pleasure at attending a meeting of the Branch, the interest shown in the large attendance and he encouraged the members to plant as much food-stuffs as they were able. He was glad to hear they could get good lands at Spring Vale to cultivate, almost for nothing,

through the generous offer of the President and would advise them to take this opportunity of acquiring these lands and extend their cultivation. The Instructor introduced his assistant, Mr. Rennie, to the meeting. Dr. Johnston, of Glasgow, who had kindly promised to attend the meeting and give his second lecture on the great European war, was next called upon to address the gathering. There was a large turn out of the residents of the district to listen to the doctor, who in his usual interesting way kept the audience spell-bound as he gave sketches here and there on different phases of the great struggle. At the close of the lecture the Rev. A. G. Eccleston moved a vote of thanks to the Doctor which was seconded by Mr. E. Arnett. The singing of the National Anthem terminated the proceedings.

R. R. McBAYNE, Secretary.

TRYALL HILL (St. Mary.)—The regular meeting was held on the 12th January, 1915. Present were: D. McNichol (Chairman) 14 members, the Secretary and 4 ladies. Mr. Egbert Henderson was proposed as a member and unanimously elected. Mr. Henderson paid his due of 3d. Correspondence from Mr. W. Cradwick was read which declared the Travelling Instructor's illness, thus he was absent from the meeting. The Assistant Instructor was introduced to the meeting by the Secretary. The Instructor replied suitably calling attention to Mr. Cradwick's illness. It was pointed out that Mr. Gunter would demonstrate in the cocoa fields of Mr. Daniel Davis, and Mrs. R. Sommers on the following day if no disappointment; all members present were asked to attend the demonstration. The importance of the Prize Holdings Competition was pointed out by Mr. Gunter, and he advised the members of the Branch to interest themselves in the matter. He further called attention to some of the chief points in the competition: attention to catch crops, permanent crops, live stocks, suitable latrine, kitchen, etc., all of which are points that would assure success in the competition. It was unanimously agreed that the President represent the Society at the Half-Yearly General Meeting, and that the sum of 12/- be taken from the funds of the Society to defray expenses, together with the sum of 4/- collected. The question of the best remedy for insect pests on seedlings was asked. The Assistant Instructor informed the meeting that "Slug Shot" sold at 6d. per lb. is best ; he also recommended the use of "Naphtalene" for moths, fleas, weevils, etc. The Instructor advised members to make use of the present rains we are having, in planting and sowing, although it was getting rather late for sowing. The Chairman gave a report *re* overhanging trees. The question of matter to be brought forward at the Half-Yearly Meeting was discussed. The following topic was deemed fit: "How Agriculture is hampered in these parts and other parts of this Island," and in which the following would be included: P. Car bridges, No. 16 Parochial Road, Quo qu and Pear Deviation. It was moved that the time for meeting be 1 p.m. The Secretary was instructed to report to the Parent Society the loss of Mr. F. Walters' badge, which was due to his chasing a burglar who attempted entering a house not far from his house. The Society asks that another be given him. Secretary instructed to write for forms on which authorized persons could claim pay for work done. The Secretary was instructed to enquire whether the leaflet promised for the guidance of authorized persons has been compiled, if so, that copies be sent to Branch Societies. The debate—Yam or Cane for this district, laid over for next meeting. A. A. CONSTABLE, Secretary.

PEAR TREE RIVER (St. Thomas.)—At a general meeting of the Society held on Tuesday night, 12th January, 1915, present: C. Lopez Isaacs, Esq., President; the Treasurer, the Secretary, 22 other members, also L. A. Wates, Esq., Agricultural Instructor. It was agreed to purchase a *Rubber Stamp* for the Branch to cost 6/- and the Secretary was instructed to write Mr. Barclay about same, also for a copy of Rules. Mr. Ed. Lindsay informed the members that this was done by him for which he made no charge. A vote of thanks was then accorded him for his generous act. The Treasurer was authorized to purchase and keep a book to record the amounts to be collected for the use of the stone. The Secretary read the circular letter advising the Branch of the General Meeting of the Jamaica Agricultural Society to be held in Kingston on Thursday, 21st January, 1915, and that a delegate be appointed to represent this Branch. This was thought advisable and Mr. Philip Hamilton was duly appointed with his consent. The sum of (20/-)

twenty shillings was voted to cover his expenses, which he accepted. It was suggested that a Debate take place at our next meeting; this was agreed to, and the following subject was selected, viz: An *acre* of *Yams* or an *acre* of *Bananas* which is the more lucrative to cultivate? Mr. Wates then addressed the meeting dealing specially with eradication of ticks on cattle and the use and value of spraying, also on the Banana disease, and urged on the members the necessity of paying attention to their fields and should any signs appear on the trees to inform him at once. He arranged to give a demonstration in cocoa pruning on the next meeting day, and invited as many as could turn out to meet him. A vote of thanks was then tendered to Mr. Wates for his instructive lecture, which he suitably acknowledged. The following new members were elected: Mr. Joshua Garvey, Port Morant; Mr. Charles W. Thomas, Port Morant; Mr. Matthew S. Lindsay, Port Morant; Mr. Joseph Haynes, Arcadia, Bowden P. O.; Joseph Kelly, Pear Tree River, Port Morant P.O. The business having been completed, the meeting closed with the singing of the National Anthem. R. R. SOARES, Secretary.

ABOVE ROCKS (St. Catherine.)—The last meeting was held in the St. Mary's Schoolroom on Wednesday, January 13th. Mr. Hanson, the Instructor, the Reporting Secretary, the Treasurer and several other members were present, also several visitors. Mr. Robert Creary was asked to preside. Arising out of the minutes, it was agreed that the Secretary write the Clerk of the Parochial Board again about the petition sent some time ago regarding the Golden River Road. A brief discussion took place as to the work of the Secretaries. It was agreed that the Reporting Secretary report to the newspapers while the General Secretary do the other duties and reports. Mr. Josephs and Mr. Webb were made new members. Both gentlemen promised to do their best to advance the Society. Mr. Lewis gave in his report as an Authorized Person. He said that people were afraid of him owing to the wise way in which he went about his work. There was therefore no arrest to report. He however, complains of the bad language used by the people Mr. Sutherland, another Authorized Person, made one arrest and the prisoner got six months. The recommendation about Praedial Larceny were discussed at length. This Branch is of the opinion that children who are orphans and others sent to the Reformatory who did no crime should not be mixed with criminals. There should be an industrial home for such children. FRED. DENNIS, Secretary.

WATERLOO (St. Catherine.)—The ordinary monthly meeting took place on Thursday, 14 January, 1915. Eight members were present, including the President the Secretary, and one lady as a visitor. The President stated Thursday, the 21st instant was the day fixed for the Half-Yearly General Meeting of the Agricultura Society and would urge on the members to send up a delegate to represent the Branch The President also spoke strongly on the shabby and dangerous conditions of the roads leading from Johnson Penn through the Red Hill by way of Waterloo through Bullock Mountain which connect main road at Spring Vale leading to Point Hill He gave the names of 18 persons who are dray owners but on account of th dangerous conditions of these roads, the owners have to keep their drays out of th districts which inconvenience them to remove goods to suit draying. There have been two accidents; one man had his leg broken and the other narrowly escaped death The Secretary was authorized to draw up a petition and send to his Excellency the Governor asking him to convert the roads into driving ones. The matter about the grindstone was brought up. It was brought to notice that the grindstone was being used by others who were not members and that he caretaker was charging money for the use of the said stone which was contrary to the rules of the Society, The Secretary moved that enquiry be made and full report be given at the next meeting and as the caretaker is no longer a member, the said grindstone be removed to another suitable place., and all members who have withdrawn from the Society be informed that they have no longer any claim on the stone. The meeting wa brought to a close until we receive notice from the Instructor.

D. C. THOMPSON, Secretary.

ENFIELD (St. Mary.)—The Regular monthly meeting was held in the Schoolroom on the 13th January, 1915. There were present: The President, the Vice-Presidents, 22 members, 7 visitors, W. Cradwick, Esq., Instructor, and his Assistant, Mr. E. A. Gunter. The Instructor addressed the meeting, and gave a very interesting account of his experiences at the Toronto Exhibition, as also of the great success of the Jamaica Court of Exhibits compared with other West Indian

Islands. The Secretary was instructed to write to Mr. Arscott of Annatto Bay, who is Secretary of the Central War Fund for this Division, and ask why the amount collected at Enfield was not published. It was moved and agreed upon that the Delegate to the next Half-Yearly Meeting would move that Branch Notes take up at least one-third of the pages of the JOURNALS, and in the event of there being more matter, Comments should give way to Branch Notes; also to ask the Government to extend the time to pay the Agricultural Loans, in view of the conditions now existing. Mr. E. A. Gunter was introduced to the Meeting, and gave a very interesting lecture on the Prize Holding Competition, and on Cocoa pruning. Every one listened with attention, and were highly satisfied. Messrs. R. D. Sibblis and Alex. Donald entered their names as competitors for the Prize Holding Competition to come off in March next. Mr. Cradwick spoke on Panama Disease and instructed members how to find it out. He also congratulated the members on their acquisition of a Grindstone, and gave instructions how to care it. He further expressed his high appreciation of the application from the Branch to have the streams protected; and he congratulated the Branch for their donation to the War Fund. A Resolution was moved and agreed upon that a committee be appointed to draft a petition to be sent to the Council at their next meeting through the Hon. R. P. Simmonds, asking that a bridge be erected over the Dry River Fording. Mr. E. T. Hylton was enrolled as a new member. Meeting brought to a close. The Secretary noted that there is a terrible wave of depression in this part of the country. The cry is no money, no foodstuffs, and nothing to do to earn money. The crisis is brought on chiefly by the war, and next by the severe drought of last year which greatly affected the crops. To all intents and purposes it would appear that 1914 was a harder year than 1912.

J. Z. JOHNSON, Secretary.

CENTRAL ST. ANDREW (St. Andrew).—The regular monthly meeting was held in the Manning's Hill Schoolroom on Wednesday, January 20th, 1915. There were present: The President, Vice-President, the Treasurer, A. P. Hanson, the Instructor, the Assistant Secretary and five members. Matters arising out of the minutes were discussed. The President in a few chosen words expressed his appreciation as to the fresh zeal that the members have shown in the first meeting of the year. Matters arising out of the minutes were discussed. A vote of thanks was given to the President for the interest and enthusiasm he evinced in having the grindstone put up, which has been recently bought by the Branch. Several other matters of importance were dealt with. The Instructor next gave an interesting lecture on the importance and advisability of catch crops. He also in the course of his talk touched on several general topics of importance which will prove of a great advantage to the members. The meeting was brought to a close by the singing of the National Anthem.

R. A. GORDON, Secretary.

PORT ROYAL MOUNTAINS (St. Andrew.)—The regular monthly meeting was held in the usual place on Saturday, 23rd January, 1915. There were present: Mr. J. A. Whitworth, V.P. in the Chair; Mr. A. P. Hanson, Instructor;eleven members, the Secretary, and two visitors. It was unanimously agreed that this Branch take steps to ask the Government for a free copy of the Jamaica Gazette, in view of the fact that many matters of agricultural interest are missed by the members, e.g., Crown Lands and price. The Instructor as also Mr. Robinson, the delegate to the Half-yearly Meeting, spoke on the question of Authorized Persons. It was pointed out that the Authorized Persons should take a prisoner direct to the J. P. and not to the Police Station. It was found that in the case of the latter, the Police nearly always re-arrested the prisoner; and the Authorized Person got no pay. The Secretary was told to apply for forms for the payment of Authorized Persons. The Instructor informed the meeting, that the Prize Holding Competition will come off this year. He also informed members that Mr. Tullock, of Gordon Town, is willing to sell lands in small lots by the acre. The Delegate to the Half-Yearly Meeting presented his report, and said that he saw the goat that the Secretary of the Parent Society is procuring for this branch and informed the members that the goat is rather promising though too young for immediate service. Penny Bank: The formation of a penny bank in connection with this branch was discussed. The meeting was in favour of the plan. A committee was formed to draw up rules. On the motion of Rev. E. Mair, it was decided that this Branch take steps to approach the Postmaster General and ask him for Telephone connection between Mavis Bank and the Gordon Town P.O. It was pointed out that planters experienced great difficulties and losses with respect to citrus fruit due to the fact that while sellers were picking fruit sometimes the order comes from Kingston to Gordon Town to stop buying. The Mavis Bank pickers, not knowing of the stoppage, continue to pick, and even to carry to Gordon Town, only to be told of the stoppage. A committee was formed to deal with the matter. A. J. CROOKS, Secretary.